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Contested Copper Extraction & Biodiversity Conservation

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Abstract

Competition over the future development of natural resources, especially biodiversity and land, and valuable mineralised deposits beneath, lies at the root of a conflict within farming communities and with a transnational mining company in Ecuador. This qualitative study uses political ecology's theoretical framework to examine compelling development planning themes - land-use conflicts, competing rural development perspectives, local sovereignty over decision-making, poverty, unequal power relations, human and environmental rights, biodiversity conservation, and natural resource extraction activities. From a discourse analysis approach, the research goals are to understand and theorise: the environmental and development claim-making process within a contested land-use and development intervention; how claim-makers utilise knowledge to construct development and environmental discourses which in turn articulate their opposing claims either supporting a large-scale open cast copper mining-based economy or promoting biodiversity conservation together with ecologically-adapted alternative forms of local economic development to extractive industries; how multiscalar discourse coalitions use their claims and counter claims in this dynamic struggle for power to determine which of two competing visions for the future economic development of the Intag valley will prevail; how the socio-environmental process of claim-making affects the balance of power between empowered and disempowered claim-makers through the use of discursive claims; and finally the impacts of the conflict and the claim-making process on the structure and agency dimension and on the moments of the social process dialectic in terms of material practices, institutions, social relations, beliefs, discourse, knowledge and power. The findings advance understanding of the dialectical social process of claim-making from all sides and levels of a multiscalar socio-environmental conflict arising from the tensions between alternative forms of local economic development which can inform development planning practice and theory and ultimately contribute to the avoidance, reduction, and resolution of resource based conflicts in fast-developing Andean economies and transition economies elsewhere.

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While I take sole responsibility for the research design, methods, and the production of this thesis, its content and any errors found within, I would like to acknowledge the earlier guidance on the theoretical framework of my supervisor Adriana Allen, and the support of my main supervisor for the final months, Professor Dr. Yves Cabannes, for his comments on the analytical chapters, and encouragement for my writing so that I could realise this thesis in a creative, meaningful, and timely fashion.

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N.B. All illustrations and images belong to the author unless denoted otherwise by the Source.

Acronyms

AACRI *Asociación Agroartesanal de Caficultores Río Intag*

AGCD Belgian State Technical Assistance Mission

CODIGEM *Corporación de Desarrollo e Investigación Geológico-Minero-Metalúrgica*

CODEGAM *Corporación de Desarrollo de García Moreno*

DECOIN *Defensa y Conservación Ecológica de Intag*

DGGM *Dirección General de Geología y Minas del Ecuador*

ECOLEX *Corporación de Gestión y Derecho Ambiental*

EIA Environmental Impact Assessment

EIS Environmental Impact Statement

INDA National Institute for Agrarian Development

JICA Japan International Cooperation Agency

MMAJ Metal Mining Agency of Japan

MEA *Ministerio del Ambiente* Ministry of the Environment

MEM *Ministerio de Energía y Minas* Ministry of Energy and Mines

OECD Organisation for Economic Cooperation and Development

Chapter 1 Introduction

1.1 Introduction

The purpose of this introduction is to: provide a background to the thesis in relation to significant issues, problems, and ideas; describe the focus, purpose and goal of the research, including key definitions and concepts to be used; explain the theoretical, intellectual and empirical contribution of my work responding to gaps identified in the literature; and concluding by describing the thesis with an annotated list of the chapters showing the structure and content of the full document.

1.2 Background to the research case study

With growing concerns on world markets over the rise of protectionism and economic nationalism in Latin America, a region with sharp contrasts between leaders in their position on resource nationalisation (Simonian and Dombey 2006) and in their views on the process of development and poverty reduction (Dombey 2006), Ecuador and her neighbouring Andean countries' new expropriation policies of natural resource extraction concessions (Blas and Lapper 2006) are being watched closely. In the context of Ecuador's recent changes to its oil contracts, commentators say that "*outside the energy sector, resource companies are increasingly concerned about the potential for radical natural resource policies in Latin America, a region that holds a quarter of the world's copper, as well as significant reserves of iron ore, gold and other minerals*" (Blas and Lapper 2006). In this macro context, my case study is a story of socio-environmental and land-use conflicts and rights over natural resources, as well as of tensions between State and local level development planning where macro-economic development is given priority over locally-determined forms of rural economic development. Current national minerals legislation, re-written in the early 2000s with World Bank assistance to attract foreign mining sector investment, requires foreign-owned mining companies to pay notional taxes to local governments and communities where mines operate. In response, a fledgling large-scale mining industry is now emerging in the Intag area of Cantón Cotacachi, north-west Ecuador; the State of Ecuador has granted mining concessions to a non-national company causing severe and multi-fold socio-environmental conflict. Those affected are the rural farming communities within the designated mining concessions known as Golden I and II where to operate the Canadian-owned open-cast copper mine will have to relocate communities away from their land and traditional agricultural way of life. While not all local residents are against this development, creating a social schism at community and even family level, the fundamental claim of anti-mining groups centres on environmental protection and the local communities' right to determine their own local social, environmental and economic development as an Ecological Cantón (AUC 2001).

Figure 1 Location of Cantón Cotacachi within south west Imbabura Province, Ecuador Source: SANREM *et al*

In these almost exclusively ethnically-*mestizo* communities, characterised by strong social capital and kinship ties, one evident conflict is between those local people who self-identify as 'environmentalists' and 'ecologists' and take a strong, often active position against the proposed mine and those people, their neighbours and other family members, who take an opposing position in favour of the mine and self-identify as 'miners'. Thus, though not yet operational, already the possibility of state-permitted mining activities in Intag has affected the social, cultural and economic well-being of the local population which is now effectively divided along the lines of the perceived threats and opportunities: on the one hand mining is seen as an opportunity and as an important new source of local male employment and basic service provision for all in the area and on the other as a threat to existing forms of economic, social and cultural activity, and to the health of all local people, other fauna, flora, water resources and an area of globally significant biodiversity. Another conflict is between local level government and the State and the Canadian company to which it awarded the mining interests over the legal process of determination of rights to the copper resources. The State has the power to grant concessions to private companies to extract sub-surface mineral resources; these concessions over-ride the rights of land-owners and any existing land-uses. However this right is conferred with a legal duty on the Secretary of State to ensure the mining company complies with Ecuadorian mining and environmental impact assessment legislative procedures which require that it fully informs the local community and municipality of all likely significant socio-environmental impacts of all planned mining activities.

The anti-mining, pro-conservation lobby claim a further legal duty on the State to obtain the authorisation of both the Mayor and the leaders of the local community before granting the concession, arguing that, despite this legal requirement, the State-level decision-making process for awarding the mining concession did not consult or consider the views, interests and rights of local level decision-makers in Cantón Cotacachi and their electorate in Intag prior to giving permission. Therefore the community and the Mayor of the Municipality of Cotacachi began a legal process against the State's granting of a mining concession to Ascendant Copper (then Ascendant Exploration) at the Inter-American Court of Human Rights. A further conflict is apparent at national level with little convergence between mining and environmental sector policies *e.g.* biodiversity conservation. The power imbalance between the Ministry of Energy & Mines (*MEM)* and the Ministry of Environment (*MEA*), with the latter's limited scope for intervention outside national parks and ecological reserves, is demonstrated by the re-defining of the concession area in late 2005 to exclude all *MEA* designated areas following controversial parliamentary questions which were raised pertaining precisely to the Intag case.

1.3 Focus and aims of the research

The focus of the thesis is on socio-environmental conflicts between opposing interest groups, known as claim-makers, on the basis of their development and environmental values, ideas, beliefs, and interests. My theoretical perspective derives broadly from political ecology's integrated approach to the study of the ecological and political dimensions of a conflict arising from interactions between nature and society. While other well-developed approaches to the understanding of socio-environmental conflict over natural resources include using institutional analysis of common property resource management (Ostrom 1990; Ostrom 1992; Ostrom, Gardner et al. 1994), I see this approach as more appropriate to the study of mechanisms of cooperation between users of common resources such as water and forests, who can benefit from collaborative management approaches, as opposed to the analysis of conflicts between non-compatible land-uses, in this case between those who would extract mineral resources and those users of the natural resources and environmental media on the surface. I would argue that the study of this type of conflict, with multiple and diverse claim-makers competing for their rights over different resources in a common geographic space, requires the post-structuralist approach within political ecology of "*...discursive analysis and a broad social constructionist perspective on environment and development...*" (Neumann 2005:23) which places an emphasis on understanding the structure-agency relationship and dialectical nature of the socio-environmental claim-making process.

My research framework explores the dialectical relationships between three central dimensions or "moments" (Harvey 1996) of socio-environmental conflicts, namely discourse, power, and knowledge, and how these contribute to the claim-making process. Neumann (2005) describes **discourse** as how "*...desires, imaginaries, ideologies and metaphors work to produce textual products that both reflect and shape relations of power...*" and I analyse how claim-makers are positioning and re-positioning their claim dynamically using environmental and development discourses and language. The **power** in question is about how each claim-maker perceives and effects their power in relation to other claim-makers, and their relative and dynamic positions of empowerment and disempowerment, through discourse. The **knowledge** under scrutiny is the information and substance of the discourses used by claim-makers. I analyse: how this is informed and how it changes with the control and use of environmental and development knowledges and discourses; the degree to which each claim-maker is able to advance their own knowledges and values, and political interests, through the exercise of power and control, and the inter-relations between each group during the conflict, including the interests of mediating parties such as those who represent the rural farming communities. Although not central units of analysis in my research, I also consider pertinent aspects of the other "moments" (Harvey 1996) of the social process in connection with the discourse, power, and knowledge triumvirate above. In terms of **beliefs** I see these as ontologies about how this socio-ecological conflict is, and epistemologies of how better understandings of this conflict might be achieved, and ways of seeing the claim-makers themselves and how each and each other wants to be seen in this conflict *i.e.* the reasons for which people self-identify as environmentalists, ecologists or miners in this struggle. Closely allied to knowledge and discourse in particular are the **material practices** or "*modifications of surrounding environments*" (*ibid*) rooted in natural resource management, agrarian and forestry, and resource extraction approaches, and how these act to produce changes in Intag's agrarian and forested landscapes. I also examine the inter-relationship of claim-makers within the conflict through the "*cooperative structures, divisions of labour, social hierarchies of class, race, age, and gender, or differentiated individual or group access to material and symbolic activities and social power...*" (*ibid*), also known as **social relations** which advances understanding outside the discourses they employ e.g. biodiversity conservation, to consider the extent to which social relations determine claim-makers' exposure to socio-environmental risks and benefits. Finally, I explore how "*political and social relations between individuals*" (*ibid*), such as the participatory development and environmental policy-making process, are transformed in different ways through and by the conflict through **institution-building.**

My analytical framework is amplified in the following theoretical chapter where I develop my argument for the selection of discourse, knowledge and power as the key units of analysis for this research on socio-environmental conflict in Intag. I also situate the central research questions in an analysis of the dialectics of the claim-making process in this particular conflict. These consider both claim-makers and socio-economic processes in relation to existing agricultural and biodiversity conservation practices and proposed future copper mining activities in the Intag cloud forest. The *goal* of the project - the question this research answers using a post-structuralist political ecology approach - is to investigate the use of environmental and development discourses by claim-makers in this socio-environmental conflict, and the impacts in terms of the power, knowledge, and discourse dialectic. This involves looking at how claims are constructed from knowledge and perceptions of the impacts of biodiversity conservation and environmental management approaches and also large-scale open-cast copper mining on the local and national economy, environment, health, and society.

Broad lines of investigation include:

- the expression of claims ranging from social, cultural, environmental, economic, development, and health issues, to legal and collective rights;
- how claims constitute and are constitutive of the power, knowledge, discourse dialectic;
- the selection of certain environmental and development discourses and how claims are expressed in terms of these development and environmental discourses;
- the claim-making process dynamic and its decision-making and policy framework;
- how each claim-maker employs their specific discourse within this struggle to effect power;
- the strategies of engagement and representation of interests of all claim-makers;
- the formation of discourse coalitions and the balance of existing power relations;
- the impacts of the conflict and claim-making process both on Intag's communities and other claim-makers, and also in terms of material practices, social relations, and institution-building;
- the perceptions of natural resource management, biodiversity conservation, and mineral extraction as micro- and macro-level economic activities;
- how connections and tensions between micro and macro level economic development and environmental policies see their expression in the manifestation of socio-environmental conflict at the local as well as national and international level *i.e. multi-scalar analysis.*

This research therefore seeks to achieve a deeper understanding of the multi-level socio-environmental dynamic of a large-scale copper mining development intervention within the wider social, economic, environmental and ecological context in which this conflict is played out.

1.4 Theoretical, empirical, intellectual, & methodological contributions

The *purpose* of this research project is to inform the development planning practice and theory on the use of environmental and development discourses within natural resource extraction conflicts by finding ways that claim-makers perceive and utilise the knowledge and power of environmental and development discourses in their struggles at local through to international levels. The *theoretical contribution* of my thesis is to address gaps identified through an analysis of socio-environmental conflict studies from a theoretical point of view by my review of the literature concerning the claim-making process within these conflicts where there is little theorising of the dialectical dimensions of empowerment and disempowerment of claim-makers in their use of environmental and development discourses. While there has been research on issues that see transnational petroleum extraction companies confronting indigenous communities' rights in the Ecuadorian Amazon, by comparison there has been relatively little research on the new mining sector where Ecuador's fledgling large-scale mining industry is creating a unique conflict dynamic. The claim-making process within Ecuador's mining-based conflicts remains to be fully investigated by researchers from a political ecology perspective and this attracts my research interest. This is with a view to making not only a theoretical but also an *empirical contribution* through the case study explored in this thesis, where national and international claimants, as well as local rural communities are divided over a contested development intervention in the absence of local sovereignty over decision-making regarding large-scale natural resource extraction activities. Whereas there is research on the material means of contention of such conflicts, there has been less analysis of the non-material means of contention such as discourse, and how the use of discourses creates and transforms the identity and power relations of claim-makers in the claim-making process. Therefore the *intellectual contribution* of this thesis is to demonstrate new ways of looking at discourses, knowledge, power and identity transformation, in the claim-making process of socio-environmental conflicts through the use of discourse analysis. Finally, the *methodological contribution* of my research is to demonstrate the ways in which I carried out my very first qualitative research project during this PhD process and how I achieved methodological congruence between the research questions and qualitative methods used in the collection, collation, and analysis of the data. I actively sought an innovative approach supported by the use of Computer Assisted Qualitative Data Analysis Software (CAQDAS), in this case selecting QSR's NVivo7 software with its pioneering capacity for the exploration of relational links between themes and other project items within my data set.

1.5 Structure and Content of Thesis

This section describes this document's structure which comprises eight chapters:

Chapter One: Introduction – this introductory chapter: provides a background to the thesis in relation to significant issues, problems, and ideas; describes the focus, purpose and goal of the research, including key definitions and concepts to be used; outlines the theoretical, intellectual, methodological and empirical contribution of my work responding to gaps identified in the literature; and here describes the chapters of my final thesis showing their structure and content;

Chapter Two: Theoretical and Conceptual Overview – this literature review chapter presents a description of the key concepts of socio-environmental conflict and claim-making used in my analytical framework. It demonstrates how the central political ecology debates are linked to my research questions, and is structured by an unfolding of my analytical framework. This theoretical structure focuses on socio-environmental conflicts from a post-structuralist political ecology perspective which emphasises the dialectics of the discourse and knowledge and power inter-relationship within the claim-making process, and structure-agency dynamics;

Chapter Three: Methodological Approaches – the methodological chapter describes how my research is conducted and provides both a justification of the research process and a documented trail of the decision-making process in the collection and analysis of the data. This contains: a definition of my research purpose, goal, outcome, issues, general and specific questions, and corresponding data needs; a justification of my case study selection; a reflection on methodological decisions on epistemology and a description and justification of the research methods used and how the data were collected, transcribed and managed; a description and justification of the analytic methods employed; a critical review of computer assisted qualitative data analysis software options and justification for my final selection and criteria used, including a description of software applications and tools for data analysis; and finally, a reflection on the opportunities and constraints of my methodological approach in the conduct and production of qualitative research outputs;

Chapter Four: Contextualising Andean Mining & Biodiversity Conflict – this is the chapter which contextualises the case study by: explaining the significance of the mining and biodiversity conservation conflict for Intag, Ecuador, and Andean countries; describing its location and social, economic, bio-physical and political characteristics; describing the key claim-makers in terms of the institutions and organisations scattered across the landscape of the conflict which spreads a network of connections around the world emanating from Ecuador to Canada, Japan, the United Kingdom, and the United States of America.

In addition to the first four chapters outlined above are four further chapters. The purpose of this analytical section of the thesis is to present and discuss: my analysis of the claims made around the case for and against mining in the Intag zone and the claim-making process and its impacts; the main findings and how these relate to my analytical framework based on the dialectical relationship between discourse, power and knowledge. There are three analytical chapters, structured according to the central research themes, and a final chapter which draws my findings together in the context of my analytical framework, and sets out the intellectual, methodological, empirical and theoretical contributions made by this thesis alongside policy recommendations:

Chapter Five: Analysing Claim-makers and their Claims - an analysis of the characteristics of the claim-makers; a thematic analysis of the claims made within this conflict; concluding with an analysis of how these claims constitute and are constitutive of the discourse, power and knowledge dialectic;

Chapter Six: Analysing the Claim-making Process and Discourses – an analysis of the claim-making process including the inter-relations within the claim-making process and the local decision-making framework; an analysis of strategies for the engagement of claim-makers in the claim-making process; an analysis of the development and environmental discourses being used by the claim-makers including how selected key claim-makers employ specific discourses within this struggle; concluding with an analysis of the function of discourse when used as claims in terms of power and knowledge and how the agency of claim-makers and the structure within which the claim-making process operates is constantly negotiated and redefined;

Chapter Seven: Analysing the Conflict's Impacts – an analysis of the impacts of the conflict and its claim-making process on local rural communities and other claim-makers in their own eyes and also in terms of material practices, social relations, and institution-building, concluding with a discussion of the effects on the dynamic discourse, knowledge and power dialectic;

Chapter Eight: Synthesis and Thesis – a synthesis of my key findings from the analysis of the case data, structured according to the research questions and the central analytical dimensions of knowledge, power, and discourse, my thesis and conclusions; in addition a discussion of key themes defining the emerging agenda for further investigation and recommendations based on my experience and knowledge of relevant methods and tools as to how my methodological approach is applicable to these new fields of investigation identified by my research; finally there is a reflection on the theoretical, intellectual, methodological and empirical contributions of my research with which words this doctoral thesis concludes and is submitted for examination.

Chapter 2 Theoretical and Conceptual Overview

2.1 Introduction

The purpose of this chapter is to present the theoretical context of my research through a selective review of literatures and a discussion of the key concepts and theoretical paradigms that inform my conceptual framework for the analysis of a socio-environmental conflict associated with large-scale open-cast copper mining development. I draw on central debates within the discipline of political ecology, now in its second generation (Biersack and Greenberg 2006), and more established fields of environmental sociology, critical geography, and development planning within which I take my own ontological position and epistemological approach to this research which, in turn, determine the congruent methodology, structure and central line of enquiry.

My approach to the investigation of a socio-environmental conflict derives from the political ecology paradigm characterised by a post-modern social constructionist perspective of multiple and complex social realities and a post-structuralist emphasis on the relationships between 'moments' within the social process (Harvey 1996:78) in this case a process of environmental claim-making. Discourse, and power and knowledge are the central dialectic 'moments' of the social process examined through my analytical framework for the study of this socio-environmental conflict. These aspects are selected because of their key role in the claim-making process where claims expressed through a range of discourses informed by different forms of knowledge, access to which is privileged by power, also effect power imbalance between claim-makers. My protagonists are the claim-makers (both the local populations affected as well as the wider community of claim-makers which includes the mining company, state and international organisations) who live out their own realities of the conflict; whose discourses, knowledge and power in relation to the mining development and nature conservation conflict are continually defined and expressed through the articulation of claims, and through their dynamic institutions, material practices, beliefs, and social relations.

My research explores how the use of active environmental and development discourses and application of various forms of knowledge, information and communication strategies, determines the balance of power in the claim-making process where claim-makers' agency and the structure within which they operate is constantly negotiated. Chapters 5 and 6 explore the interaction between the employment of discourses, knowledge and power, by examining how the knowledge informing discourses affects its power as a claim and in turn each claim-maker's changing agency within the dynamic structure of this socio-environmental conflict.

2.2 *Research Themes*

2.2.1 Characteristics of the claim-makers and their claims including:

- individuals, communities, institutions and organisations involved in the Intag conflict;
- significant characteristics of claim-makers and claim-making alliances;
- claims made within the conflict on social, cultural, environmental, health, economic, development, and collective rights grounds;
- how claims constitute and are constitutive of the discourse, power and knowledge, dialectic.

2.2.2 Characteristics of the claim-making process and discourses including:

- the spatial, and temporal characteristics of the claim-making process;
- the relationships within the claim-making process in terms of the main interests of the claim-makers
- the '*social relations*' and '*institution-building*' in the form of networks, discourse coalitions and groupings;
- the local decision-making framework in the claim-making process;
- the public presentation of claims;
- the engagement and mobilisation of local and global claim-makers in the claim-making process in terms of communication and information campaigns, and other strategies;
- the environmental and development discourses being used by leading claim-makers on different sides of the socio-environmental conflict;
- the application of different forms of knowledge and information as the basis of specific discourses, and communication strategies
- how the knowledge within each discourse promotes or inhibits its effect as a claim;
- the discourse used as claims in terms of knowledge and power dialectic.

2.2.3 Impacts of the conflict and the claim-making process including:

- the impacts on local communities, claim-makers and non-claim-makers as self-identified;
- the impacts on 'material practices', 'social relations' and 'institution-building';
- how the use of discourses affects the balance of power relations between claim-makers and how the agency of claim-makers and the structure within which the claim-making process operates is constantly negotiated and redefined.

2.3 Socio-environmental conflict and local mineral development

Large-scale mining is one of the most contentious human activities on the planet[1]. In the short to medium term extractive industries and their associated social and economic infrastructure bring certain economic benefits to the national economy and selected sections of the local economy through employment, and land title purchases: simultaneously mineral extraction activities cause the land required by open-cast mining, all environmental media, and surrounding socio-economic communities unavoidable and irreversible alteration through natural resource degradation and social change (Hilson 2002). While bringing socio-economic infrastructure to the area around the mine in the form of medical facilities, housing, roads, and schools, the socio-environmental consequences of conflicts can be severe and irreversible, and even result in "*...violence, resource degradation, the undermining of livelihoods, and the uprooting of communities...*" (Castro and Nielsen 2001). Severe disputes arise in developing countries in the form of deep socio-environmental conflicts between claim-makers promoting existing land uses such as agriculture, forestry, water catchments, and nature conservation, and claim-makers promoting extractive industrial land uses such as open-cast mining. These conflicts reflect the irreconcilable nature of these competing land uses; the natural resources in the form of mineralised deposits of copper and other metal ores lie beneath other natural resources on the surface in the form of soil, water, flora, and fauna and in order to extract the mineral resource, the surface and all its attributes must be removed and irreversibly altered, often destroyed, along with the human settlements and activities dependent on the surface natural resources.

According to some analysts (Lungu 2007) of the links between natural resource exploitation and the growth of socio-economic inequality and injustice, local communities and society only benefit if extraction company profits are taxed at higher levels than now (an *e.g.* of a high rate is 7.5% in Chile whereas in some African countries the rate can be as low as 0.5%). Until this happens resource-rich developing countries will continue to exemplify the so-called "resource curse" as untold wealth is withheld from the citizens at current rates of taxation on copper extraction revenues. From a political economy view, there are sustainability implications of the fiscal relationships between the State and transnational companies *i.e.* concerning the apportioning of profit for foreign extraction companies and the resource revenue for the State within the multinational and multi-resource context (Akpan 2007). In some resource rich countries, *e.g.*

[1] "Perhaps no single industry has precipitated more disputes over land use than mining. Hilson, G. (2002). "An overview of land use conflicts in mining communities." Land Use Policy **19**: 65-73.

Venezuela and Bolivia, there is now a shift in this fiscal relationship between the State and transnational companies towards the appropriation of foreign-owned extraction companies as a way of maintaining greater economic benefits within the country as resources are treated as national assets which could translate into a development approach and restore their agency.

Latin American environmental conflict literature's main focus traditionally has been on petroleum extraction in Amazonian regions of the continent (Collinson 1996) and considered within the dominant policy framework of sustainable development. Exceptions to this general tendency (Martinez-Alier 1991), (Martinez-Alier 2001), (Bebbington 2005) have made reference to other extractive industries such as gold, tin, and copper mining which instead tend to be located in the foothills of the Andean mountain range therefore in biophysical, environmental, ecological, social and cultural settings distinctively different from those found in the oil-rich Amazon basin, factors which influence the political and economic dimension of the socio-environmental conflict dynamic. With reference to the cases of guano and fishmeal in Perú, one author comments that *"the rapid exploitation of exhaustible or slowly renewable natural resources for export is a common trait of the history of Latin America"* (Martinez-Alier 1991:628).

The most significant approaches to the analysis of conflicts derived from mining using a political ecology framework have considered the power imbalance created by extractive industries, but not power imbalances that allow mining development to occur despite opposition from local communities which is one of my central research concerns as I am studying a pre-extraction conflict. In an analysis of power from the structural period of political ecology, Martinez-Alier (1991:627) refers to the yet unwritten socio-ecological history of tin mining in Bolivia, arguing "*it would show that the extractive economy produces a lack of local political power, and at the same time local poverty, and therefore incapacity to stop the extraction or to raise prices of extracted resources.*" In Nigeria in the past Niger Delta communities were invisible compared to the natural and ecological resources (Akpan 2007) and treated as functions rather than socio-political entities and consequently suffered from what he calls "*identity-rape*" until a socio-political shift increased these communities' visibility. An earlier study (Bunker 1985) applying a political ecology analysis of the Brazilian Amazon also suggests that "*the social destructuring in extractive zones... leaves a socio-political void which is occupied by foreign interests, or, as in the Brazilian Amazon, also by the central state, which in turn accelerates the ecological exploitation and degradation*". Bunker's argument is that the pressure of export production on resources results in a lack of local political power. My research is looking at the political power balance before extraction to examine how

and where multi-scalar political power is being wielded by Intag's organisations, institutions, and populous, and other non-local claim-makers, and how this agency is perceived by both fellow and opposing claim-makers, and their micro- macro-scale connections.

Another area of my research, discussed in Chapter 7, is the impact of this conflict on the local communities and how local civil society has responded with the creation of new forms of agency and empowerment as well as the destruction and alteration of kinship ties and established forms of social capital within an ongoing conflict. The impact of extractive industries on society in the form of local communities is described in a case study of Bolivian mining (Hecht 1985) contemporary to Bunker's which describes how "*in an extractive economy, the flows of materials and energy are not incorporated in infrastructure which facilitates continuous development. An extractive economy also destroys the local civil society*". This is a position countered by the corporate social responsibility (CSR) literature and ethos of Canadian mining companies operating in Ecuador in their social programme of infrastructure improvements and rhetoric of sustainable development of the Intag zone. However in the case of Chinese mining in the Red Sea Hills of East Sudan a current study claims that the CSR approach is not working for these local communities and argues for the need to go beyond CSR to make local partnerships which fully incorporate local communities from the outset in planning and implementation phases and including a greater element of profit-sharing (Homaida 2007).

The social roots of conflicts, particularly violent ethnic conflicts involving genocide, are often attributed to socially constructed 'imagined' ethnic communities with shared values and identities which then construct social divisions that "...reflect deep-seated conflicts over power and resources both *between* groups and (more pertinent still) ***within*** groups." (Hildyard 1999:4). In the case of mining-based conflicts there is also the social construction of identities and shared values, and the creation of 'imagined communities' (Anderson 1991) of pro- and anti-mining, as well as those with no strong sense of belonging to either group. Certainly the construct of 'race' and ethnic identity were used as part of the colonial project to first create and then maintain a clear hierarchy within Latin American society and an inherently unjust power structure, a historical backdrop that cannot be ignored in any current socio-environmental conflict over natural resource extraction. But while I do not want to downplay the existence of the ethnic dimension to the Intag conflict, given the high national profile of the indigenous Mayor who has strongly opposed the mining development, the social construction of identities in this conflict has not been along ethnic lines, of common culture or history, but along shared environmental and development values

instead, resisting or assisting the exploitation of natural resources. The conflict at one level is about exploiting copper resources for the global market and arguably a social resource at the same time in the form of a more cohesive functioning rural economy and society, and an international biological resource of the cloud-forest and its ecological and hydrological services at local and global levels without fully expiating the damage. An important point here is the heterogeneous nature of the conflict's groups, inequalities arising from gender and socio-economic class, and level of education too, which can determine their degree of bargaining power, and the extent of control over the resources, such as land and its environmental degradation, on which their livelihoods depend. This study sets out to unpack the nuances of the so-called 'objective truths' that claim-makers (the majority self-interested and partisan by definition) are articulating within the claim-making process, without the presentation of verifiable evidence in all cases.

2.3.1 Claim-makers

An understanding of political ecological conflicts requires a focus on the interests and characteristics of claim-makers, based on a view of conflicts occurring as a result of different claim-makers' interactions as each advances a particular set of interests. Such an actor-oriented paradigm *"relates an understanding of actors to political and ecological processes"* (Bryant and Bailey 1997:24) and examines the struggle between claim-makers for control of certain natural resources. My research takes this approach to examine the motivation, interests, and complex and contradictory actions of claim-makers in Intag, and the roles and significance of these interactions in terms of their political importance and the interplay of power. Characteristic of this post-structuralist approach is the emphasis on the agency of claim-makers, while not ignoring global structural forces. As discussed in the section on multiscalar connections in Chapter 8, my research examines the interplay of agency and structure of Intag conflict's claim-makers within the process in its context of global economic demands for copper, and also the associated political pressures for mineral development tied in with national economic development, local social forces of resistance to change and environmental degradation, and hegemonic development and environmental discourses. My post-structuralist approach also examines the extent of the reciprocity of power relations in relation to Giddens' claim that "*...all power relations, or relations of autonomy and dependence, are reciprocal; however wide the asymmetrical distribution of resources involved, all power relations manifest autonomy and dependence 'in both directions'...*" (Giddens 1979:149).

This thesis uses a claim-maker-oriented approach to analysing the Intag conflict, which permits a broad typology of claim-makers that includes: local communities; local level 'grassroots' groups; non-governmental organisations (NGOs); the State; the municipality; local level business; multinational business; and multilateral institutions. My analysis of each claim-maker involved in making competitive claims over access to mineral resources or protection of environmental resources considers the following attributes that characterise each claim-maker according to their specific: institutional framework; organisation structure; the networks to which they belong, whether international, national or local or any combination of the three; political interests; relations of power; legal status; values; belief systems; motivation; access to and use of financial resources; social capital; access to and application of forms of knowledge; use of communicative media; and perspective on their desired future which leads each to attach different levels of importance to socio-economic development, nature conservation, and mineral extraction and their degree of compatibility. These variables are important aspects of my analytical chapters, particularly Chapter 5, which follow and reflect the complexity of the claim-making process and its main constituents in relation to the agency and structure relationship, and dialectics of the social process of claim-making.

2.3.2 Claim-making process

In its simplest form, socio-environmental conflict arising from mineral development manifests as a polarised situation where active claim-makers position themselves either in favour or against mining activities. Additionally those against mineral extraction promote environmental and economic alternatives such as biodiversity conservation, agriculture and forestry activities while those in favour of mining activities highlight the social and economic development it brings. As part of the process of claim-making each side articulates its competing interests using visible forms of public expression of their claims, drawing on selected socially constructed discourses which interpret their understanding and knowledge of mining activities and its alternatives, all with a view to deploying power to advance each claim-makers' own interests.

Bingham (2003:7) identifies three requirements for making environmental and development claims in the public arena: a generalised argument or discourse designed to justify the claim-maker's position; evidence of some sort to back up the claim; and an assemblage of resources to support the claim described as *i.e.* "*...components that different interests can bring together and display in order to exert leverage, influence or force*" (Bingham 2003:9) such as power. The outcome of a socio-environmental conflict depends on how successful each claim-maker is in

justifying, evidencing and supporting their position. Chapters 5 and 6 of my thesis examine the Intag conflict by studying how claim-makers use generalised and specific environmental and development discourses, the information and knowledge used as evidence to substantiate the argument behind each claim, and how each assembles and deploys their own battery of resources to lever influence and power over the process and its eventual outcome, as well as its impacts.

2.4 The Political Ecology of Socio-environmental Conflicts

Political ecology is an emergent discipline for the study of socio-environmental conflict, and in this section I consider its central tenets and paradigms in relation to mining-related development conflicts through its analytical and empirical approach. Political ecology originated with neo-Malthusian population biologists and ecologists who saw that environmental problems cannot be resolved by administrative and technical solutions alone (Ehrlich 1968; Hardin 1968; Ophuls 1977), with its introduction as a concept in an early 1970s anthropological journal (Wolf 1972). Until the mid-1980s neo-Marxist theories such as dependency theory, world systems theory, and modes of production theory inspired political ecology's development as a field of study which linked local social oppression and environmental degradation to wider economic and political concerns, explaining local conflicts in terms of the process of global production.

There is a conflation of social and ecological issues identified in the South where socio-environmental conflicts are seen to have an economic dimension. Studies of poverty and environmental degradation claim that "*the struggle for survival brings the poor to defend access to resources, and sometimes, their conservation; therefore the ecology of the poor has been very present both historically and now, although there is little research on this*" (Martinez-Alier 1991:623) and my research examines the motivations of agrarian claim-makers to protect their natural environment in the light of multiple levels of interest which also involve protecting their livelihoods. Later chapters discuss the global economic demand for mineralised resources such as copper which provide the framework for the multiscalar nature of this conflict where the anti-mining discourse addresses the inequality of local environmental degradation for international economic and material gain and Intag's conflict pits local anti-mining claim-makers against the State and a transnational company. I also look at the local level dynamic within the Intag zone in deference to criticisms of the limitations of the global production analysis of Neo-Marxist analysis for its deterministic perspective and overemphasis on structural claim-makers at the expense of the micro-politics of environment change and its claim-makers at the grassroots level.

These critiques were delivered over the decade spanning the mid-1980s to the mid-1990s from quarters such as the emerging field of eco-feminist theory (Agarwal 1992), neo-Weberian theory in political sociology (Skocpol 1985), and social movements theory (Scott 1985). A critical reassessment followed wherein new theoretical sources moved political ecology towards a multi-faceted understanding of the role of power relations in the interactions and interdependence between humans and the environment (Blaikie and Brookfield 1987; Guha 1989; Watts and Peet 1993). This theoretical shift emphasised the relevance of agency as well as structure and was influence by Foucault's argument that power is fluid in nature, not fixed, and multipoint and multi-capillary, not place-based. The influence of this post-modernist thinking, and other critiques mentioned above, led to an explanation of environmental change and conflict at all levels in terms of the "*outcome of interaction of various claim-makers possessing unequal power capabilities*" (Bryant and Bailey 1997:25).

This move away from '*political ecology's structural legacy*' (Moore 1993) to studying local level politics was itself criticised because globalisation links local decision-making and the global political economy (Bryant and Bailey 1997). New theoretical approaches of post-structuralism and discourse theory (Said 1978; Escobar 1995) required political ecology to consider how environmental conflicts are defined discursively. This theoretical shift emphasises investigating the inter-relationship between knowledge and power in the mediation of outcomes of a political-ecological nature (Fairhead and Leach 1995; Fortmann 1995; Peet and Watts 1996; Peet and Watts 2004) and seeks to explain environmental conflict and change at all levels in terms of the "*outcome of interactions between material and discursive practices*" (Bryant and Bailey 1997:35) in addition to the role and power of claim-makers and institutions. Today, the theoretical basis of political ecology remains broad and the debate continues through attempts to reach greater coherence, for instance about the scale of investigation; while early political ecology was criticised for not paying sufficient attention to the '*micro-politics*' at play within environmental conflicts (Moore 1996), since the mid-1990s the "*internal complexity or differentiated concerns of the state or other claim-makers*" and local activities is seen as over-emphasised "*at the expense of regional and global developments*" (Soper 1995; Bryant and Bailey 1997). Taking these critiques on-board in this research I take a multiscalar approach to the analysis, though constraints of self-funding meant that the scope of my data collection through interviews is limited to local, national, and international type informants living and working within Ecuador.

The field of political ecology covers a multiplicity of integrated approaches to the understanding of the political economy of environmental change and conflict, both in the developed and in the developing world. Political ecology deals with the '*political and economic causality*' of the Third World environmental crisis and treats environmental problems there as part of the wider development crisis using multiple interpretations of the notion of political economy which reflect the ideological spectrum (Bryant and Bailey 1997). It differs from other areas of environmental research by its radical perspective which regards environmental problems not just as the outcome of market or policy failure but as "*a manifestation of broader political and economic forces ... associated with the worldwide spread of capitalism*" and state intervention in economic developments where environmental externalities and distributional conflicts arise from growing economic deregulation and economic inequality seen in "*...the adverse social and environmental consequences of capitalistic natural resource extraction*" (Bryant and Bailey 1997:49) and mineral resource extraction such as mining activities of the Rio Tinto Zinc concern (Moody 1996).

Political ecology brings a perspective to the study of society-nature relations through *e.g.* the material practices of rural communities and their use and abuse of local natural resources and argue that these practices are not only dependent on the type of resources available but also on the wider social, political and economic forces as structural aspects influential on the agency of poor communities. In addition political ecology has developed a focus on the "*knowledges of nature and their power-geometries*' (Castree and Braun 2001:14) which are discussed below in terms of the relation of this perspective with post-structuralist paradigm taken in this research which considers knowledge informing discourses of nature as dialectical components of the social process of claim-making.

2.5 Social Constructivism

2.5.1 Social Construction of Reality

The social construction of reality is a particular approach used within social theory and political ecology which "*holds that either there is no 'objective' reality for humans which has not been constructed via language, or that there is always a social or discursive dimension to human reality*" (Barry 1999:221). Sociologists investigating the social construction of environmental issues address the claims making process used by groups and individuals to convince decision-makers of the validity of whatever is being defined as an environmental problem (Morris and Wragg 2003). Commonly studies of environmental claims-making over biodiversity focus on the

role of the media in the production and representation of environmental claims, their delivery and the creation of meaning, seen as a cyclical process (Burgess and Harrison 1993).

2.5.2 Social Construction of Nature

Here I present the arguments (Blaikie and Brookfield 1987; Milton 1993; Hannigan 1995; Blaikie 2001; Castree and Braun 2001; Barrow 2003) around how we socially construct and conceptualise our natural environment. There is a great deal of literature which discusses the meanings of 'nature' and 'environment' because the way in which people think about these two phenomena '*affects how they perceive opportunities and threats, and the way they react*' (Barrow, 2003:4). Nature is seen as a concept identified with '*with strong links with birthplace and origins – milieu or cosmos might better be used to mean local conditions or surroundings that affect people;* [whereas] *'environment' implies the sum total conditions generated by a given interaction between organic and physical factors.*' (Barrow, 2003:5). This distinction is useful when applied to the rural residents of Intag who conceptualise their emotional connection with their environment according to the definition of nature as well as fighting for their livelihoods with the definition of environment which encompasses relationships between nature and society.

From the historical view the treatment of nature has changed recently as until the emergence of environmentalism the dominant world view can be seen to have prompted '*exploitation, rather than stewardship, of nature...*' (Barrow, 2003:3) and forest resources still are exploited on a wide scale in the case of commercial logging for timber. Now there is scientific knowledge that points to the fragility and dynamism of ecosystems, the vulnerability of biodiversity, and the finite nature of certain non-renewable resources. Research has also shown that forests can be a durable resource and still be a source of economic income. Woodland and forests are the sites of carbon sequestration and income is generated through the international carbon trading mechanism. At the same time, forest conservation, particularly in tropical and sub-tropical environments is linked to non-timber forestry production (CIFOR 2003).

A social constructionist approach to nature has been developed in past decades, the strongest variation of which is a deconstructivist, post-modern treatment of nature which takes all texts, reports, narratives as mere descriptions and was soundly rebuffed (Soulé and Lease 1995). Others support a weaker form of social constructivism, accepting that '*each of us (and by implication, the whole cast of actors who use and make representations about nature) has a unique and subjective view of reality, but that the notions of 'interactivity' and positionality enliven*

the stakes in contesting for the integrity of the environment...Hayles urges that representations emerging from marginal positions have a special role to play in knowledge construction' (Blaikie 2001:146). In this citation it remains unspecified what exactly is meant by a special role and how indeed the views of those on the fringes of political power can be introduced and with what status but my work addresses the ways in which the less powerful claim-makers' views are represented within the conflict, and the impact this has on the narrative account constructed as a claim for the importance of biodiversity conservation and ecologically-sensitive forms of economic development which fall within the environmental carrying capacity of the cloud forest area and which do not compromise its delivery of a vital range of local and global environmental services.

Blaikie argues for the use of critical theorist Habermas' approach '*to outline a construction of nature that might offer better, more just environmental and social futures.....that different truths about nature may be* ***mutually*** *and* ***democratically constructed****, that these 'truths' can be acknowledged to be provisional and political, and that contending social constructions of nature can be negotiated in a playing field which, while not level, is not on a vertiginously sloping gradient!*' (Blaikie 2001:146). This argument is relevant to the process of redress of the imbalance in power relations in Intag's socio-environmental conflict although there is no clear answer as to which social construction of nature can achieve this end. Indeed the constructed claims around biodiversity conservation and environmental management derive from global policy discourses which bring their own power dynamic with them, and the taint of being 'externally' sourced which affects their local impact and adoption.

Within socio-environmental conflicts there is a clear need to link this social construction of biodiversity conservation to the claim-making process, to specify so-called 'accountable' social ends to environmental claim-making and to include marginalised voices, as well as take a more justice-based approach and prioritise economic, social and cultural impacts. Blaikie argues for the need to focus on 2 main issues: firstly the '*different ways in which the environment is interpreted and explained by the various people involved in its management, including government officials and policy-makers, local civil society – often their views about what is happening to the environment and its natural and social causes are in direct contradiction*;[and secondly] *how and with what effects, these different views about nature are contested, specifically, how these views inform (or fail to be heard in) environmental policy-making in the developing world*' (Blaikie 2001:133). On his first point I would add that there is a variety of views held by State organisations and positions within the same Ministry can conflict in policy-terms. This lack of

policy coherence at municipal and state levels, coupled with the heterogeneity of public views, adds additional degrees of complexity to the interpretation, explanation, and policy and practical management of the environment. In relation to his second point, although he is talking in the context of environmental degradation I think this can be said of the pre-mining environment too, the impact of the conflict's different claims will be affected by the degree of convergence of each view with the key-decision makers' own interpretations and position on environmental management and biodiversity conservation. If the State MEM EIA Unit agree with DECOIN's environmental claims then this is a powerful convergence between the national and local level, but if not, then the local environmental group's claims fall on deaf ears and their environmental claims have no power to represent their interests in the decision-making process.

So how do views of biodiversity conservation enter the environmental claim-making process? The dominant view is that '*truth talks to power*'. Truth is established by natural scientists who establish objective facts using scientific methods, a style of policy-making suited to '*top-down, state-led, and authoritarian-style policy-making.* ..[the cautionary issue is that]... *scientific information can be used selectively in policy-making, taken out of context, without acknowledging uncertainty and provisional nature of findings, without original caveats* (Blaikie 2001:144). He argues that '*some writers have pointed to a process in which 'trans-science' is produced by the continual interaction between scientists and policy-makers which further politicises and shapes a stylised and persuasive construction of nature for bureaucratic and public consumption. Thus nature is often reduced to the production and consumption of images, emblems, logos, and soundbytes, and subjected to an astute culling of selected scientific 'facts' which may keep the mass media and the public feeling that they are really participating, while reducing scientific uncertainty and complexity to manageable simplicity. But 'truth'? No.*' (Blaikie 2001:144). The biodiversity conservation policy and claims made around it in socio-environmental conflicts such as Intag's have to a certain extent fallen victim to the politicisation of scientific data which first prompted worldwide concerns over the extinction of species and the critical functions of multiple species to support all life forms on Earth. UN Conventions and the 'Big 5' global conservation NGOs have popularised the term biodiversity and environmental education and political campaigns have made this a hegemonic discourse used by all levels of society across the globe including national and local environmental NGOs in Ecuador and Intag and anti-mining farming communities in all their forms of claim-making to oppose the destruction of their natural environment by large-scale copper mining.

My research on socio-environmental conflicts draws on one of critical geography's main approaches to the study of society-nature relations. Some treat nature purely as a resource for human exploitation *e.g.* the technocratic concept of sustainable development which is used as a claim in Intag. Another approach is ecocentric but problematic in practice as it is based on a dichotomy that Castree describes as '*deeply ingrained in Western thought since the Enlightenment*' (Castree and Braun 2001:5) however rural communities in Intag understand and relate to their environment as something they are part of. This relationship is expressed by their claims and self-identification as ecologists living with mutual respect with nature. The most relevant theoretical approach to my study of the Intag conflict's relationship is therefore that of 'social nature' that sees nature as essentially social and '*defined, delimited, and even physically reconstituted by different societies, often in order to serve specific, and usually dominant, social interests.*' (Castree and Braun 2001:3).This perspective is closest to my own position in this research which seeks to unpack the social constructions found in the negotiation of environmental claims that present nature from a particular perspective. This paradigm fits with the study of this conflict's discursive dynamic and the unequal positions of power and resources used to contest environmental and development claims

In this research of environmental claim-making, and taking the position that the theoretical discussions around 'nature' can be equated with the Spanish term '*la naturaleza*' to which the claim-makers refer, an important definition is that of nature as a term universally used in socio-environmental conflicts but which has multiple and overlapping meanings. The role of discourses constructed as claims in a socio-environmental conflict is to achieve a particular purpose which as Raymond Williams (1980:70) says: '*What is usually apparent* [when reference is made to nature] *is that it is selective, according to the speaker's general purpose.*' The intention of the claim-makers in Intag's conflict has demonstrated this selectivity in practice as claims are discursively constructed and evolved throughout using different forms of knowledge in order to achieve their shifting objectives. Castree and Braun (2001:10-11) describe '*the claim that knowledge of nature is invariably inflected with the biases of the knower...* [*i.e.*] *...only particular, socially constituted knowledges*' which '*are seen as implicitly and explicitly reflecting the wider class interests of the most powerful groups in Western and non-Western societies.*' The anti-mining use of knowledge about nature is an example of a bias-inflected understanding which reflects the class interests of the less powerful groups in an Andean society.

My analytical framework draws on David Harvey's concepts of 'moments' within a dialectical social process and in line with this my research looks at both knowledge and power, and how these aspects mutually inform and constitute the discourse that are used with the claim-making process. It is therefore pertinent to reflect on the distinction that Castree and Braun point out between knowledges of nature on the one hand, and discourses of nature on the other. The authors say that *'where Marxists...talk of ideologies of nature – which hide the truth and which serve specific social interests* – [others] *show that knowledges of nature are more complex than this, in terms of their origins and outcomes...prefer to talk of discourses of nature, drawing upon the so-called 'post-structuralist' theories of language proposed by French intellectuals Derrida and Foucault...* [wherein].*all claims about nature are discursively mediated. Knowledge and language are the tools we use to make sense of a natural world that is both different from us and yet which we are a part of. There is therefore no objective, nondiscursive way of comprehending nature 'in the raw'. We have to live with the fact that different individuals and groups use different discourses to make sense of the same nature/s. These discourses do not reveal or hide the truths of nature but, rather, create their own truths. Whose discourse is accepted as being truthful is a question of social struggle and power politics*' (Castree and Braun 2001:12). My analysis considers the struggle to create a set of environmental discourses supported by congruent material practices which will change the existing social and power relations predicated on free market economic development discourses and the technocratic rhetoric of sustainable development.

The aim of theories around the topic of social nature is to provide '*formal intellectual frameworks for explaining and evaluating myriad different society-nature imbrications...concerned with questions of socionatural in/justice...seek to question conventional understandings and practices regarding nature – technocratic, ecocentric, or otherwise – and try, implicitly or explicitly, to envisage more progressive society-nature articulations...theories and concepts...can illuminate what is so often denied: that is, nature's implication in social knowledge, practice, and power.*' (Castree and Braun 2001:18). Concluding that *'If nature is nothing if it's not social, it's also unavoidably political*' (Castree and Braun 2001:18), it is suggested that there are 3 meanings of political: Firstly, '*as values...knowledge of, and action in/on, nature is unavoidably value-laden...speaks volumes not only about who is doing the knowing and acting, but what kind of a world they are trying to forge. This is often subtle – as in the hidden values written into scientific knowledges of nature – but by no means always...* [need to] *reflect carefully and critically upon the social value commitments involved in all society-nature relations.*'

Secondly, '*as moral or ethical statements about nature. Morality and ethics are those principles societies use to determine what is 'right' and 'proper' thought or behaviour...e.g. Ecocentrists question the human-centred morals used to evaluate current society-nature relations worldwide and call for less anthropocentric and more 'green' ethical code*'. Thirdly, '*formal government policies and decision-making*' responsible for both regulating and shaping society-nature relations typically...'*deal with nature in technocratic ways*...[and need to]... *question the non-social view of nature written into state politics and policy, as well as the ecocentric criticism of these...insist that states, bureaucracies, and their ecocentric critics must all acknowledge nature's sociality from the very start if adequate policy measures are to be developed over everything from deforestation to the patenting of life forms.*'(Castree and Braun 2001:18-19).

As is argued '*in an era when nature is less natural than at any time in human history...must...think critically about the dominant ideas and practices that circumscribe all manner of society-nature relations worldwide...question it opens up for discussion...what kinds of nature – or more properly natures...- do we want for what kind of future?*' (Castree and Braun 2001:19). This line of interrogation goes beyond the scope of my research which concentrates on the existing and emerging society-nature relations that are influencing the process of negotiating the values and intentions of environmental claim-making in a local mineral development intervention.

2.5.3 Structure-agency dialectic

The semantics of development-speak talk of peoples and groups as agents, while anthropology-speak calls the same 'objects', reflecting the fact that the former field is a domain where there are constituencies, active interventions and political power relations and the latter field is one where the parties involved in the same activities are observed from a vantage that allows the ethnographer to view them as objects, and with the objectivity achieved by this distance.

2.6 Central Concepts

2.6.1 Discourse

Within the 'discursive turn' of political ecology discourse is described as how "*desires, imaginaries, ideologies and metaphors work to produce textual products that both reflect and shape relations of power.*" (Neumann 2005). My research looks at how claims are expressed in terms of both development and environmental discourses, and over time the evolution and flow of

claims made in relation to and response to the conflict, investigating how each claim-maker is positioning and re-positioning their claim dynamically using environmental and development discourses and language. I examine how claim-makers employ different discourses and how this relates to power struggles between claim-makers in the conflict. Postmodernist thinking offers a certain reflexivity and self-consciousness that provide the opportunity for claim-makers to be more open and responsive to change and take on knowledge and ideas communicated by other claim-makers through the discourses.

A useful concept for my research is that of the 'discourse coalition', and the way in which an environmental or development discourse can be presented as a convincing case to key institutions. The coalition can be formed from a grouping of such claim-makers as activists, scientists, politicians, and their representative organisations, with strong media connections. These coalitions are politically powerful because their constituent claim-makers unify around particular 'story-lines', the meaning of which actually they may interpret differently from each other and also be the subject of specific interests (Hajer 1997). The globalisation of the environmental discourse of sustainable development has come about as a result of a number of events and publications by members of the same '*discourse coalition*' (Hajer 1997), which have gradually led to its hegemonic position in relation to other environmental discourses. Another example is the decline of rainforest cover which is used to illustrate a story-line of environmental destruction in environmental politics. It is argued that the construction of rainforest destruction as a public problem is discursive, and that therefore environmental conflict is now discursive and '*essentially about its interpretation*' (Hajer 1997).Particularly relevant to my research is the way in which political ecology frames the study of the shaping and use of discourses through the power relationship between claim-makers and its effect on knowledge systems and social relations. This examination of socially-constructed discursive strategies reveals the operation of power at institutional and societal levels, which is used in the dynamic process of empowering and disempowering claim-makers in socio-environmental conflict.

The relationship between environment and development conflicts highlights 3 prominent perspectives in the analysis of the relationship between environment and security. These are that: conflicts arise over competition for scarce resources; environmental conflict is linked to a society's transition from a subsistence economy to a market economy; and, that violence in many developing countries occurs when different groups attempt to gain control of abundant resources. These analytical approaches can be related to certain environmental discourse categories

(Dryzek 1997) in the following way. The first refers to resource scarcity which is classified by Dryzek as a 'survivalist' crisis discourse of "*looming tragedy*"; and the third approach its diametric opposition because it refers to an abundance of resources, in a style typical of the 'promethean' discourse of denial and "*growth forever*"; with the second approach, with its references to the market economy, having more in common with 'marketisation', one of Dryzek's problem-solving discourses known as 'economic rationalisation', which is characterised as "*free market environmentalism*". This research also analyses the different perspectives on the relationship between environment, development, and security taken by the conflict's claim-makers.

The conclusions of some of the main authors are summarised into four key suppositions to which it is possible to link the approaches of the different typologies of environmental discourse: a. that environmental conflict is a result of scarcity and represents social struggles against uneven usage and allocation of resources; with the reference to scarcity this links to typologies of environmental discourse such as 'survivalism' (Dryzek 1997) and 'livelihoods' (Bebbington 2005) and the reference to inequalities in resource distribution this also touches the very foundations of third world political ecology (Bryant and Bailey 1997); b. Environmental conflict reflects poor performance by governments in developing complex public policy; this supposition is the very critique of one of the problem-solving discourses known as 'administrative rationalism' a top-down, technocratic model of environmental management; c. Environmental conflict involves the issues of power and rights; this is characterised by the 'environmental justice environmentalism' (Bebbington 2005), using the discourse of human and environmental rights. As a supposition this may seem fairly self-evident but as a theoretical position it supports my approach to struggles for environmental justice and against injustice by local claim-makers; d. Environmental conflict is an inevitable consequence of development and can be constructive; this supposition is closest to the 'sustainability' discourses (Dryzek 1997), especially democratic pragmatism, of all those in the typologies.

My critique of the above is that there are a number of omissions in these suppositions about conflict. The first is the lack of reference to the hegemonic 'conservationist' (Bebbington 2005) discourse of environmentalism which, arguably, is at the root of many deep environmental conflicts over the use and allocation of natural resources, representing a dominant discourse held by the large environmental NGOs (such as the WWF) and its potential and actual conflict with grassroots environmental discourses informed by local environmental concerns and priorities. The second is the failure to acknowledge that environmental scarcity has a relationship with

violence in developing countries, as evidenced by a University of Toronto project on environmental population and security (Percival and Horner-Dixon 1998). My own position on environmental conflict draws on some of the suppositions above: I see environmental conflicts arising from poor and non-inclusionary decision-making processes of development and environmental planning by the State, which are characterised by unequal relations of power within and between organisations and institutions at all levels, where national interests in economic development is put above human and environmental rights, and therefore conflicts between the interests of local, national and international organisations arise which are expressed through their different development and environmental discourses.

My research question centres on the use of environmental and development discourses by claim-makers in a socio-environmental conflict and this fundamental line of interest has guided my review of the literature with a view to formulating an analytical framework within which to conduct research in my case study around this central area of investigation. Of the various approaches, such as environmental security, common property, institutional analysis, that are taken to study socio-environmental conflicts I selected the theoretical paradigm of political ecology for its congruence with my research questions and concern with environmental justice in the so-called third or developing world.

Development discourse, power and knowledge

Development discourses reflect neo-colonial approaches to local knowledge and the role of this knowledge is potentially both empowering and disempowering. Since 1945 development discourse has been '*the central and most ubiquitous operator of the politics of representation and identity in much of Asia, African and Latin America*' (Escobar 1995:214). Counter to this, since the 1980s, trends to recognise local knowledge seek to find not '*development alternatives but alternatives to development*' (Escobar 1995:215) as a form of political expression perceived as 'fundamentally cultural' struggles as forms of resistance to development discourse. In looking for alternatives to development cultural difference is fundamental to the search and therefore one of the most critical political aspects of the '*unmaking of the Third World*... [because] ...*cultural differences embody – for better or for worse, this is relevant to the politics of research and intervention – possibilities for transforming the politics of representation, that is, for transforming social life itself.... The greatest political promise of minority cultures is their potential for resisting and subverting the axiomatics of capitalism and modernity in their hegemonic form*' (Escobar 1995:225).

Many critiques are written about development discourse (Mair 1984; Verhelst 1990; Hobart 1993; Escobar 1995; Grillo and Stirrat 1997). Contributors to an edited collection of essays by anthropologists on development take the position that '*claims to knowledge and the attribution of ignorance are central themes to development and yet remain seriously under-studied*' (Hobart 1993:4). Local knowledge is not an impediment to progress or an excuse for the failure of development, but a valuable commodity with great potential to contribute to '*peoples' material, intellectual and general welfare*' (Hobart 1993:5) because local knowledge has the potential to empower claim-makers disempowered by western rational scientific knowledge and development approaches.

Development discourse attracts criticism for the power imbalance implicit in its application where the 'developer' and the 'peoples to be developed' operate at either end of a spectrum of empowerment. Postcolonial power in Latin America remains centred in the hands of the political elite engaged with the project of modernity and hegemonic development discourses, while social movements excluded from the seat of power attempt to wrest a degree of power for themselves. The relationship between developers and the developed is criticised for being hierarchical in nature, for the unidirectional imparting of knowledge from the former to the latter. Differentials in the holding of power associated with knowledge and information in development to lead to potential abuse or misuse of information by claim-makers. In this situation '*several coexistent discourses of development*' (Hobart 1993:12) emerge representing the developers (pro-mining), the developed (anti-mining), governments, and other local interested parties. Such constructions of knowledge determine the nature of agency of all those involved in a local mineral development project, how active or passive each claim-maker's role can be, and whose values, cultures, traditions and practices dominate the claim-making process. Examining the relationship between knowledge, power and agency in claim-making communities engaged in development discourses enables a deeper understanding of the political, social and cultural processes at play within the hegemony of the dominant development discourse.

Development is equated with economic growth, providing a strong hegemonic drive for the transformation of the two-thirds of the world classified as under-developed by governments, organisations and institutions. Escobar (1995) argues that development is a type of discourse and used as a form of power, to the extent that the notion of development has gone beyond being questioned at the most fundamental levels it is regarded as a given truth and desired state or outcome for all peoples, regardless of culture or identity; indeed the development discourse has

even '*colonised reality*... [by achieving]... *the status of a certainty in the social imaginary*' (Escobar 1995:5). This understanding of development as a discourse and also the social constructionist approach to reality, is based on the work of Foucault (1980; 1997) on the dynamics of discourse and power in the representation of social reality which is seen as having played a key part in revealing how particular forms of discourse can simultaneously produce '*permissible modes of being and thinking while disqualifying and even making others impossible*' (Escobar 1995:5) and has permitted reconsideration of how the under-developed world is represented. The advantage of approaching development as a discourse produced by history is that this allows the viewer to regard it as '*an encompassing cultural space*' (Escobar 1995:5) which allows a deeper understanding of the ways in which development is viewed by claim-makers, both the developers and those to be developed. This opposition is central to development discourse and manifest as an unequal balance of power at all levels, between the developed and underdeveloped nations. The basis for this is the mediation of Western social and cultural models of development, progress, order and values and their virtually universal application – unquestioned, uncritical, sometimes uninvited or even strongly resisted - to other societies.

The portrayal of non-Western peoples as under-developed, and as incapable of developing themselves to become like the West, is the premise and pretext upon which Western governments, multinational companies and multilateral agencies intervene. Such is the hegemonic influence of the development discourse that these interventions can be perceived by the recipients of development within this discourse, as a way of '*un-underdeveloping*... [within the] ... *social imaginary of the people*' (Escobar 1995:6). There is a history of non-governmental organisations and social movements in regions such as Latin America, mobilising against development interventions that threaten livelihoods. There is a highly unequal power balance between local development discourses and global hegemonic development discourses of nation-states, multinational organisations and international institutions such as the IADB, World Bank or United Nations agencies which shares dominant environmental discourse to which I now turn.

Environmental discourse, power and knowledge

Local environmental and development knowledge does not necessarily present itself as a comprehensive knowledge system, and activities based on local knowledge are not necessarily either socially just or sustainable. Critical issues for examination in this research are the sources and dynamics of local, and scientific and technical knowledge acquisition and its use within the

discursive communities of this conflict, the extent to which it is shared and to what extent local knowledge is integrated with scientific and technological knowledge in discourse evolution. To expand on this point, there are a number of current discourses of environmentalism that require explanation and analysis. This includes the following selection of descriptions: 'environmentalism of the poor' which is concerned with protecting livelihoods of the most economically vulnerable; 'environmental justice' environmentalism with its focus on human and environmental rights; 'sustainable development' environmentalism which allows for continued economic development alongside environmental and social development; and finally, 'conservationist' environmentalism with its traditional and neo-liberal approach to environmental management and protection. All these discourses are important to the understanding of the types of environmentalism being used in the context of a socio-environmental conflict where similar and different discourses are employed as part of the claim-making process. In themselves, environmental discourses are comprised of '*an astonishing collection of claims and concerns brought together by a great variety of claim-makers*' (Hajer 1997).

One of the matters around which the debate seems to turn is whether there is a belief that the balance of power lies with the people or with the environment. If the dominant belief is the former, this '*...presupposes that people are in a position to protect the environment, that it is amenable to their protection...*' (Milton 1993:123). This is illustrated using the values and assumptions of nature conservation, the hegemonic policy of international environmental organisations based on the cultural values and beliefs of industrialised countries, which are applied in the environmental policies of these same organisations and used to influence the environmental claims used in development interventions and environmental programmes across the industrialising world. The divergence of cultural perspectives can present challenges to the elaboration of a culturally-appropriate strategy for natural resource management for example, even the language used reflects the belief that humans can dominate and control nature, that it is somehow unable to manage itself.

Milton examines the reasons for the perpetuation of the myth that non-industrial societies are environmentally-adapted and non-destructive. Apart from a strong desire on the part of environmentalists to believe that '*...there are viable alternatives to a destructive economy, that by relinquishing industrialism we might create a truly sustainable way of life...*' (Milton 1993:134), there is also an ignorance of the ways in which non-industrial societies understand and behave within their environments, and a failure to make a distinction between people's actions and

cultural beliefs, thus '*...without distinguishing between what people think, feel and know about the world (their culture) and the things that they do, it is easy to make the mistake of assuming that societies which appear to have little impact on their environments must necessarily have environmentally-benign cultures.*' (Milton 1993:134). Importantly, Milton points out that '*...once we distinguish between a society's culture and its members' actual use of their environment, it is possible to see that low environmental impact can exist alongside a culture which espouses no environmentalist principles...*' (Milton 1993:135). The final reason, although this is not the case in the use of anti-mining environmental discourses in Intag, is political and power-related in nature, for the persistence of the myth of primitive ecological wisdom in global environmental discourse lies with the non-industrial societies themselves which astutely use the myth as a socially-constructed identity to gain international recognition and support for the restoration or retention of their traditional rights within the modern nation-state. These relationships again affect the extent to which environmentalist arguments can be accommodated as '*People's receptiveness to the idea of environmental protection depends on the relationship between their understandings of power, the way they allocate responsibility, both within human society and between human and non-human forces, the way they think about time and the extent to which they envisage and plan for the future. These relationships also affect the extent to which cultural phenomenon can be imported from one context into another.*' (Milton 1996:224)

Milton makes the point that '*environmental discourse appears to be characterised by a high degree of globalisation*', citing the '*tendency for environmentalists in industrial society to 'borrow' philosophies and practices from non-industrial peoples, in the creation of international arenas for negotiating agreements and setting environmental standards (most notably, through the United Nations, the European Union and other such alliances), and in the imposition, through these mechanisms, of 'western' concepts of science, value and nature in countries where such concepts are not indigenous*' (Milton 1996:12).

This point is echoed in the context of a study of ecological modernisation in Ghana which is seen as a process of *'institutionalisation of a decentralised discourse coalition, which links international environmental agencies with national level civil society organisations'* (Amanor 2002:65) argues that this coalition *'tends to empower actors who subscribe to the dominant environmental story-lines, and marginalise those who do not'* and results in the creation of narratives which exclude local knowledge and understandings of environmental change. These very practices are the focus of my research to see the degree to which Ecuadorian environmentalists are using their

own cultural references and philosophies and practices taken from indigenous discourses and narratives; and the extent to which the dominant discourse is taken from the environmental values and paradigms of the industrial societies, and whether there is a fusion of approaches in some form of hybrid discourse that is used in the environmental policy process' negotiations.

The difference between these two views lies in the degree of power attributed to the environment in the development of human society. '*While the first treats the environment simply as the source of human sustenance, the second implies that it has shaped human society be setting the conditions for its development*' (Milton 1996:23). Thus '*a culture may be seen as a whole way of life, as a way of thinking about and understanding the world, or as the process through which that understanding is generated, and still be a mechanism through which the people whose culture it is, interact with or adapt to their environment*' (Milton 1996:23). It is this definition that I use for the purposes of this research project, its breadth and depth necessary to include all the dimensions required to achieve a fuller understanding of the socio-cultural dynamics in environmental negotiations at the local level in heterogeneous communities.

2.6.2 Knowledge and Power

One of the central propositions of Foucault's work is the inextricable coupling of the questions of knowledge and power in the discourse and practices of modernity. When this is applied in the critical analysis of development interventions (Panayiotopoulos 2002)raises a pertinent question about the relationship between knowledge, power and empowerment with respect to '*the practice of seeing knowledge as just another commodity to be bought and sold in a relationship between those with the money and power and those with the knowledge*', viewing this as of greatest relevance to the applied anthropology used in development agencies to fulfil their particular remit. Power is a useful analytical concept to be defined in the discussion of socio-environmental conflicts where it can be seen both as a resource and as a discourse or '*generalised argument*' (Bingham 2003). The question in this context is how local and global knowledges and values fit into discourses and how they are deployed in claim-making within socio-environmental conflicts. As the table below illustrates, local knowledge has traditionally been presented in opposition to Occidental knowledge and multiple authors have created these binary concepts below to try to differentiate them epistemologically. In so doing local knowledge is characterised as practical, collective, place-specific, monolithic, culturally-bounded system, endogenous but also as contested and hybrid in character.

Knowledge Type	Authors	Levi-Strauss	Polanyi	Hunn	Posey Warren *et al.*	Huber and Pedersen
	Global	*La science*	Scientific	Universal	Western	Modern
	Local	*la science du concrete*	Tacit	Folk	Indigenous	Traditional

Figure 2 Table of global and local knowledge type dichotomies

Post-structuralist critiques of this absolutist dichotomy have argued that all knowledges are socially-constructed and therefore the analysis should focus on those processes that legitimise certain hierarchies of power and knowledge between local and global knowledges. Anthropological critiques particularly, have been of the hegemonic discourses that authorise essentialist representations of complex and heterogeneous knowledges and are for the need to examine the hierarchy of knowledges used in the claim-making process and the idea that power and knowledge are indisociable from another, as in Foucault's conception of power as *pouvoir/ savoir* (power/ knowledge). The question of the role and value of both local and global knowledges and values in framing development and environmental claims within a conflict over exploitation of natural resources also relates to the power each claim-maker thereby claims. Starting from the premise that environments are formed over time by physical, cultural, political and social forces which also reflect power struggles of a class, ethnic and gendered nature, it is essential to include the "moment" of power and power relations at the core of this political-ecological analysis. In historical perspective it is seen that there is "*a colonial legacy of integration in a global capitalist economy, natural resource dependency, environmental degradation and centralised political control have conditioned environmental use and conflict in postcolonial times*" in the developing world (Bryant and Bailey 1997) which is still apparent in resource conflicts being played out today.

Political ecology is concerned with the study of the politicised environment where there are unequal power relations, characterised by complexity, fluidity, impermanence, and heterogeneity, between all participating claim-makers and sees the need for *"the transformation of a series of highly unequal power relationships upon which the present system is based"* in the form of profound and radical changes to the existing system of political economy with "*local level*

decision-making by grassroots claim-makers... at the expense of ... non-place based, and traditionally powerful claim-makers" (Bryant and Bailey 1997) who would perform a coordinating function at strategic levels.

My research questions concern how each claim-maker perceives and effects their power in relation to other claim-makers, their relative and dynamic positions of empowerment and disempowerment, and how this changes with the control and use of environmental and development knowledge and discourses; also the degree to which each claim-maker is able to advance their own local and non-local knowledges and values, and political interests, through the exercise of power and control, and the inter-relations between each group during the conflict, including the interests of mediating parties such as those who represent the rural farming communities. For this reason the political ecology approach is appropriate as it provides an analytical interdisciplinary approach to the study of "*the causes and implications of environmental change*" (Bryant and Bailey 1997) and how the relations of interdependence and control between humans develop both out of and into relations of interdependence and control between humans and their environment. The interaction of the claim-makers and their role in a politicised environment characterised by unequal power relations at all levels in an environmental conflict link closely to my research questions which look explicitly at whether and how the use of different environmental and development discourses affects the balance of existing power relations within the conflict.

Closely linked to knowledge and informing material practices, beliefs related to my questions regarding both ontologies about how this socio-environmental conflict is, and epistemologies of how better understandings of this conflict might be achieved, the ways that claim-makers see themselves and each other and why, for example the reasons for which people self-identify and want to be seen as environmentalists, ecologists, or miners in this struggle in this conflict.

2.6.3 Institution-building

This is how seemingly durable organisations of "*political and social relations between individuals*" (Harvey 1996), such as the participatory development and environmental policy-making process, are transformed in different ways through and by the conflict. Political ecology is concerned with communities and environmental politics, taking institutions as a starting point to connect socially differentiated communities which have biologically differentiated environments. In this field institutions are understood as claim-makers or players brought together for a specific purpose.

While there is some evidence in the case study of the '*evolution of institutions for collective action*' (Ostrom 1990), these do not represent entire communities, or homogenous populations, but are organisations and institutions that have emerged each representing the particular interests and characteristics of certain groups, rarely the common interest of an entire community. There are several main types of claim-makers that can be identified in the process of environmental change and environmental conflict which include: "*states, multilateral institutions, businesses, environmental non-governmental organisations and grassroots claim-makers*" (Bryant and Bailey 1997). My case study also includes: municipalities, international and transnational companies, and environmental governmental organisations. Bryant and Bailey (*ibid*) advocate using an claim-maker-oriented approach in their attempt to "*put politics first*", while recognising that there are other equally valid approaches to political ecology "*based on the analysis of environmental problems, concepts, geographical regions or socio-economic characteristics*" which they see as complementary. However the advantages of using their approach include: emphasising the "*essential complexity of the interests of claim-makers as they interact with one another and with the environment*"; demonstrating that "*just as conflict between claim-makers reflects divergent interests, so too conflict exists between individuals or groups of individuals within each category of claim-maker, conflict which is based on differing interests and concerns*"; suggesting that there are "*decided, if not always particularly clear, political implications associated with the specific organisational traits of the different claim-makers*"; suggesting that "*there is often an inherent logic to the coalitions and alliances that develop between different claim-makers based on their contrasting traits and interests*" (Bryant and Bailey 1997). Political ecology integrates the ecological, economic and political issues which are at the core of environmental problems and conflicts in communities and thus provides the theoretical framework for research and analysis centred on the concept of a "*politicised environment*" (Bryant and Bailey 1997) through "*researching the interactive element of political decision-making and environmental circumstances*" (Somma 1993).

2.6.4 Material practices

Material practices are perhaps the most tangible aspect of my research to study in the field; described as the "*modifications of surrounding environments*" (Harvey 1996), in this case study these activities are rooted in the consideration of natural resource management approaches within the agrarian and forest landscapes in Intag, as well as the resource extraction approaches which produce changes in the same agrarian and forested landscapes. While the common property literature offers a culturally and historically embedded analysis of power and authority in

resource management institutions, it is critiqued for failing to adequately link material practices with social relations by only reflecting "*a romanticised vision of the local, dodging the difficult questions of class, gender and other social divisions within communities and of how differing and competing community interests might affect the ecological condition of community lands.*" (Robbins 1998). This research considers the impacts of the conflict on material practices in terms of discourse, knowledge and power, and also examines the links across to both institution-building and social relations in the conflict dynamic to see what bearing they have on material practices, especially of the rural claim-makers in Intag.

2.6.5 Social relations

My research concerns how the claim-makers relate to one another within the conflict situation, through "*cooperative structures, divisions of labour, social hierarchies of class, race, age, and gender, or differentiated individual or group access to material and symbolic activities and social power...*" (Harvey 1996) which help to advance the understanding outside the discourses they employ such as in land entitlements and environmental rights. This is linked directly to the environmental justice perspective which considers the extent to which social relations such as age, ethnicity, gender, class, land entitlements *etc.* determine claim-makers' exposure to environmental risks and benefits according to these characteristics and their status in the claim-making process. This point is made by Peet and Watts (2004) who argue that political ecology "*seeks to understand the complex relations between Nature and Society through careful analysis of social forms of access and control over resources – with all their implications for environmental health and sustainable livelihoods*" at all levels from the individual, to local community, state, through to the global, as "*the deepening reach of transnational capital...has its counterpoint in the proliferation of social movements which typically link economic and ecological justice (the politics of distribution) with human rights and cultural identity (the politics of recognition)*" (Peet and Watts 2004). The new social movements are seen as an attempt by civil society on all levels to address the "*environmental externalities ... and distributional conflicts*" from growing global economic deregulation and economic inequality (Peet and Watts 2004).

Environmental (socio-economic) justice is a large and well-developed field seen as a branch of political ecology. These themes are explored at length in a number of recent books such as: (Dobson 1998) which looks at the contradictions and tensions between the sustainability and social justice agendas; and (Agyeman, Bullard et al. 2003) which examines the issues around the concept of a just sustainability, and also include the topic of human and environmental rights as

the right to manage your own resources, to self-determination, are indelible, vital aspects of the International Bill of Human Rights agenda (Kadri 2007). Environmental justice is particularly relevant to the "moment" of social relations, where I question whether the use of environmental and development discourses serves to achieve a sense of justice or less injustice to the community-based claim-makers. On a conceptual level if political economy is regarded, in classical terms, as the study of economic distribution conflicts then, using the same logic, political ecology is seen as the study of ecological distribution conflicts. Ecological distribution can be defined as the social, spatial and inter-temporal patterns of access to the benefits obtainable from natural resources and from the environment as a life support system, including its 'cleaning-up' properties (Martinez-Alier 2002).

Multi-dimensional and multi-sector resistance movements, such as environmental justice, have emerged in response to ecological distribution conflicts where there is a perception that environmental risks and hazards are unequally distributed across human populations. Environmental justice criticizes mainstream environmentalism for its claim that environmental degradation is suffered equally (Dobson 1998) and argues that, just as with natural disasters, the poor suffer the most as they are the least well protected, due to inequities in environmental degradation and also injustices in the policies used to address them. In this case study the rural communities see the environmental degradation caused by a large-scale copper mine of estimated dimensions one and a half miles deep by five miles across, and also the degradation from the waste produced from the extraction process, measurable in millions of tonnes of spoil, as well as millions of litres in the tailings dams.

Where there is prosperity it is unequally divided and the poverty that prevails in many countries "*ensures that environmental conflicts ... are predominantly livelihood based. Indeed a key research objective in Third World Political Ecology is precisely to explore the connections between poverty and wealth, environmental degradation and the political process*" (Bryant and Bailey 1997). Claims about links between poverty and degradation of the environment which see that the poor overuse natural resources and are responsible for a disproportionate level of environmental degradation are countered, arguing that poor people do use resources, but wealthy people consume more and are responsible for environmental degradation from both resource extraction and waste disposal-related environmental contamination to a greater degree than the poor. Thus environmental justice movements have mobilised to seek equitable distribution of environmental good and ills.

There is also a discussion which is relevant to my research, which links to the social relations "moment" by its reference to poor claim-makers. Some commentators see political ecology as a field of study of distributional issues within the discipline of ecological economics which looks at the "*ecological distribution conflicts which operate at local and global levels over the depletion of resources and environmental pollution*" (Guha and Martinez-Alier 1997). Here there is direct relevance to my research where ecological distribution is defined as "*the social, spatial and temporal asymmetries or inequalities in the use by humans of environmental resources and services i.e. in the depletion of natural resources (including the loss of biodiversity) and in the burdens of pollution*" (Guha and Martinez-Alier 1997) and 'the environmentalism of the poor' is defined as "*social conflicts with an ecological content (today and in history) of the poor against the (relatively) rich, not only but mainly in rural contexts*" (Guha and Martinez-Alier 1997). Still in the context of environmental justice, the post-materialist thesis that sees environmentalism as a luxury of a prosperous society is critiqued for failing to acknowledge different types of environmentalism which include environmental justice, where class, ethnicity and gender serve as predictors of environmental inequality, and the "*... 'environmentalism of the poor' which grows out of distribution conflicts over the use of ecological resources needed for livelihood*"; although this form of environmentalism may use "*non-environmental idioms*" as well as more explicit environmental claims (Guha and Martinez-Alier 1997). This form of environmentalism is also explained by some authors "*in terms of non-materialist (especially religious) values and also to explain the environmentalism of peasant women in terms of a non-materialist, essentialist identification with nature*" (Guha and Martinez-Alier 1997).

	Materialist	**Non-materialist**
In affluent countries	Reaction against the increased impact of the effluents of affluence, e.g. the environmental justice movement in the US, the anti-nuclear movement	Cultural shift to post-material 'quality of life' values, increased appreciation of natural amenities due to declining marginal utility of abundant, easily obtained material commodities
In poor countries	The environmentalism of the poor i.e. the defence of livelihood and communal access to natural resources threatened by the state or by expansion of the market	'Biocentric' eastern religions (as distinct from western 'anthropocentric' religions)
In both	Reaction against environmental degradation caused by unequal exchange, poverty, population growth	Essentialist eco-feminism (poor women intrinsically closer to nature)

Figure 3 Some '*varieties of environmentalism*' (after Guha and Martinez-Alier, 1997)

While on initial inspection it may appear that there is little connection between these local and global ecological distribution conflicts, in terms of the local movements and global issues, global ideas are being used in local and national environmental debates and struggles, while simultaneously international organisations such as Oil-Watch are *"trying to combine the efforts of many communities of the south endangered by the oil industry"*(Guha and Martinez-Alier 1997). In this research I consider these global to local links within the perspectives of all the "moments" of a socio-environmental conflict driven by the global market for the products of the copper mining industry.

2.7 Analytical Framework

In my analytical framework, I draw on central debates within the emergent discipline of political ecology and more established fields of environmental sociology, critical geography, and development planning to determine the congruent methodology, structure and central line of enquiry. My approach to the investigation of a socio-environmental conflict derives from the political ecology paradigm characterised by a post-modern social constructionist perspective of multiple and complex social realities and a post-structuralist emphasis on the dialectical relationships between 'moments' within the social process (Harvey 1996:78) of environmental claim-making. Discourse, power, and knowledge are the central 'moments' of my analytical framework for the study of a socio-environmental conflict. My protagonists are the claim-makers who live out their own realities of the conflict; whose discourses, knowledge and power in relation to the mining development and nature conservation conflict are continually re-defined and expressed through the articulation of their claims, and through their dynamic institutions, material practices, social relations and beliefs. My contention is that claim-makers' deliberate use of knowledge through dynamic environmental and development discourses determines the dialecticism of power relations between claim-makers within a conflict over particular natural resources, both mineral and environmental, where claim-makers' agency and the structure within which they operate is constantly re-negotiated. This provides the context for and the momentum of the claim-making process, which is dynamically defining and re-defining the claim-makers' claims through the environmental and development discourse each articulates within the framework of the natural resource conflict. I also contend that the mutual interaction between discourse, knowledge and power for each claim-maker creates a co-dependency whereby the knowledge ingrained within the discourse either promotes or inhibits the power of a discourse's use as a claim; in turn strengthening or weakening claim-makers' agency within the claim-making process of the socio-environmental conflict.

Chapter 3 Methodological Approaches

3.1 Introduction

The primary contribution of this thesis is two-fold, not only in relation to the issue itself but on the methodology and tools and how these can be used congruently and innovatively in development planning research. This chapter is therefore as extensive as the literature review preceding it, and contains a detailed account of the decision-making process regarding my methodological approach, the particular blend of methods I selected, and of the data handling and analysis. The purpose of this chapter on methodology and methods is to describe how my research is conducted and to provide both a justification of the research process and a documented trail of the decision-making process in the collection and analysis of the data. Within the research design context, starting with a description of the research context, I have defined my *research purpose, goal, outcome, issues, general and specific questions, and corresponding data needs,* and I have justified the case study selection on the basis of pre-defined criteria applied during pre-fieldwork. I carried out a *reflection on the methodological decisions* on epistemology and ontology made at the outset of the research process from a critical review of the possible approaches with the final selection made using the criteria of appropriateness, consistency or 'fit', ethics, access, constraints, and research credibility; and written a *description and justification of the research methods* used and how the data were collected, transcribed and managed as well as a *description and justification of the analytic methods* employed. As I used *NVivo7* software to manage my research project I also include a *review of the possible computer assisted qualitative data analysis software options* and justification for my final selection and criteria used, including a *description of the software applications and tools* I used in my data analysis. Finally I report on *constraints in the conduct of the research*, both foreseen and actually experienced during data collection in the field, as well as the simultaneous analysis process.

3.2 Research Design

3.2.1 Research Context

During my professional experience of different regions of the so-called developing world I worked in Latin America, firstly in Colombia, then in both Perú and Bolivia. Over time I developed an interest in understanding more about the political ecology of the Andes and the dynamics of natural resource use conflicts in the region. I chose Ecuador as the country location of this study on the basis of reports on its emerging mineral extraction industry; verifying its research suitability through a pre-fieldwork period in the country with the chief purpose of case study identification.

In scientific articles written from fieldwork carried out in rural areas of Ecuador it appears that most studies in the broad field of development planning and particularly natural resource conflict have been carried out in the Oriente; here the 30 year history of oil extraction in Ecuadorian Amazonia has been well documented by both national and non-national researchers who have studied this region's economic development through the exploitation of oil and gas resources. Other studies have addressed the tensions between environment and development policies in neighbouring countries with their own share of the biodiversity and indigenous populations and rich fuel resources (Hall 1999; Hall 2000; Hall 2002). Ecuador is exceptional in that, unlike its neighbouring countries, until now it has only experienced small-scale mining activities without large mines on the scale of those in Colombia, Perú or Bolivia. However recent geological studies have identified mineralised deposits of gold, copper and other metals in mountainous regions far from the oil-rich Amazonia area in all senses: cultural, bio-physical, social, ethnic, linguistic and geographic. Ecuador's fledgling large-scale mining industry is emerging with its own conflict dynamic not yet fully investigated by researchers from a political ecology perspective and therefore attracting a growing research interest (Bebbington 2005; Bebbington 2007).

3.2.2 Project Design Process

As a research process I set out to learn how to carry out high quality qualitative research, realising that this is highly dependent on a rigorous design process which critically evaluates the reasons for selecting any aspect of the project and regularly reviews progress in the light of data collection and development of understanding in order to realign the project and tighten its focus. At start of 2005, after pre-fieldwork in late 2004, I defined four distinct aspects of my research, namely the **general purpose** and **goal** of the project *i.e.* why this choice of problem, and the explicit sources and motives of my interest, the **method** *i.e.* how I transform this interest into a researchable problem through choosing my theoretical standpoint and research strategy, formulating it as a series of questions, creating pathways, the implications of my choices, logistics, data gathering, recording, storing, transcribing, coding and analysis, eventual presentation, interrogation and reflection, also the impact of research on personal life and personal life on research (UCL 2003) and the eventual **outcome,** described below.

The general purpose of this project, the reason for undertaking this particular piece of research, is to inform the literature on the use of environmental and development discourses within natural resource extraction conflicts by finding ways that claim-makers perceive and utilise the power of environmental and development discourses in their struggle. This also informs the literature on

and the practice of environmental conflict resolution where divided communities take up positions regarding a contested development intervention in the absence of local sovereignty over decision-making regarding natural resource extraction activities.

The goal of the project, the question that this research answers, is to investigate the use of environmental and development arguments by the various claim-makers in the conflict over a proposed copper mine, their selection of particular discourses, and how each claim-maker employs their specific discourse within this struggle, if this is with a deliberate sense of effecting power by the least empowered claim-makers, and thereby affecting the balance of existing power relations; and to examine the impacts of the conflict on the claim-makers in terms of their use of environmental and development discourses, and their perceptions of shifts in the balance of power between sides.

My method ensures my research design is informed by identifying and describing the purpose, outcome and goal from an early stage and that I have a broad scope of views from all the claim-makers involved in the conflict. I also started with an initial indication of the first open coding of ideas *e.g.* struggle, justice, power, environmental and development discourses, that I made further enquiries into and this therefore helped me pose the questions which provided the answers sought. The questions addressed by this research require the use of qualitative research methodology and methods because it is not a theory that I set out to test, using a hypothesis, but an area of unknown knowledge that can only be answered through an iterative process of data collection and analysis.

The outcome is a doctoral thesis, with appropriate theoretical framework to contextualise the empirical work, which achieves the purpose and goal of the project, resulting in a synthesis and analysis of the data collected that explains the perception, selection, use and impact of environmental and development discourses within political struggles over natural resource extraction and the outcomes for all the claim-makers within the conflict, especially the local communities, in terms of their sense of struggle for justice and determination of their chosen form of economic development. The research outcome is an analytical framework providing an explanation in the form of a thesis as to why certain environmental and development discourses are used by different claim-making groups and how this effects power relations and affects the local community's sense of struggle.

3.2.3 General Questions

These are the broad initial questions that guided the design of my semi-structured interview questions from the outset, pre-fieldwork and subsequently were amended in the light of the data. They are informed by my research questions which examine the characteristics of the claim-makers and their claims, the claim-making process and discourses, and the impacts of the conflict and the claim-making process but are broader in scope to allow re-formulation in the field:

Contextual

What are the socio-ecological processes at play in the negotiation and implementation of development and environmental discourses in this ongoing socio-environmental conflict?

What is the current land-use planning and development framework of the area and by which process is this determined?

What is the current situation regarding land ownership, formalisation of rural *mestizo* communities, and rights of property-owners in the context of land for which the State has given a mining concession?

Conflict

Who are the claim-makers identified in the conflict, in terms of their identity, practical and strategic needs, stakes in the conflict, relative position in the claim-making process etc.?

What is the understanding of the nature of the conflict, its roots and the central issues about which it turns for each claim-maker?

How does each claim-maker identify its strategies, power-base and allies?

How is the conflict defined in terms of social, ecological and/or economic terms by each claim-maker?

Development and Environmental Discourses

What are the environmental and development discourses being used by each claim-maker?

What are the local environmental and development knowledges and values of local claim-makers and of their representatives who are mediating on their behalf? How do these concur?

What are the environmental and development knowledges and values of non-local claim-makers?

Are there diverse images of local environmental knowledge and of forms of rural development?

Are the representatives of local claim-makers using or perceived as using 'borrowed', non-local environmental and development discourses?

Process

How is the environmental claim for justice of the rural *mestizo* population being mobilised?

Is there consent from the rural *mestizo* population over their representation in the conflict?

Is there a sense of struggle against injustice among local claim-makers?

To what degree do the environmental knowledge, values, discourses and interests of mediating parties who represent the marginalised and disempowered rural *mestizo* population affect their representation and sense of struggle for environmental justice and against injustice?

How are the arguments and discourses being used perceived by each claim-maker?

Impact

What are the social, environmental and development impacts of the conflict to date? How do these find expression? What is their particular dynamic and how are they changing over time?

Is the grassroots group lost or removed from the conflict by their representatives?

To what degree is each claim-maker able to advance their own development and environmental knowledges and values, and political interests and with what effect?

How is the exercise of power and control having a bearing on the conflict?

How instrumental are inter-relations between each claim-maker and their network in advancing knowledge and values and political interests?

3.2.4 Design of questions

My general field of research interest is the political ecology of conflict over natural resources. Within this, my research issue concerns the deliberate use of environmental discourses in contested environments and in development disputes and the counter social-economic arguments. The general research questions are at an abstract level and answered through the accumulation, synthesis and analysis of data collected from informant responses to specific research questions formulated under each general question. The careful design of questions to obtain the data I required was critical to the process and outcome of my research. From my experience in this research project it is relatively straightforward to generate a great deal of qualitative information: indeed I gathered data throughout the time spent living in Cotacachi, for instance in every conversation with local people when in response to their questions about why and what I was doing there I explained about my research and the topic under investigation, and they in turn give their views. I treated this type of data as background information and noted significant comments made in informal conversations when of real relevance to my research topic, and collected all these notes in my main Journal kept within the NVivo7 software PhD

project file. Questions occurred continuously: through my ongoing literature review; as I read the national and local press, including the local Intag newspaper which takes a strong and unambiguous position against the mine; as I met informants for informal discussions or semi-structured interviews. As I regularly reviewed and re-categorised the questions, I kept a log in a separate file in the project software to which I could refer to monitor the evolution of my thinking and line of enquiry throughout the data collection and analysis period known as the data trail.

I constructed short, single questions using everyday language, avoiding the use of jargon, negative terms, complex, hypothetical or leading questions, and also sought that the question neither caused offence nor implied a biased interest. Impartiality, as far as possible, was a major aspect of my research in a conflict setting where, in order to achieve my research objectives, I needed to talk to all interested parties, those for and against the mine. I took great care to be transparent in my dealings with all the claim-makers. From the outset I travelled to all the key organisations and communities to present myself and my work as an independent researcher, not funded by any interested party or organisation, an intention well-accepted if not always believed.

3.2.5 Operational definitions

Some of these also relate to the central theoretical concepts defined in section 2.6 but are adapted here for operational purposes to work with in the field with informants:

- Biodiversity and biodiversity conservation – The variety and abundance of species of plants and animals and the scientific case for the management and protection of areas where there are significant concentrations of these forms of wildlife. Ecuador became a signatory to the UN Convention on Biodiversity in 1992 and ratified this in 1993[1].
- Community - there are different types of communities in this context – those in the rural areas which are affected by mining, those potential new mining communities formed by the mining company and the migrant workers, and also the wider community forming the society in the country which has the potential to benefit and suffer from the economic effects of the mining, as well as the global community of consumers of copper-based electronic goods, and of the environmental services provided by the primary cloud forest.
- Development – a form of change with connotations of balanced improvement and betterment of environmental, social, environmental, cultural and ecological conditions

[1] *Aprobado por el Poder Legislativo en el Registro Oficial 109 del 18 enero de 1993 y ratificado por el Poder Ejecutivo el 10 de febrero de 1993 MEA (2001). Política y Estrategia Nacional de Biodiversidad del Ecuador 2001-2010. MEA, Ministerio del Ambiente Republica del Ecuador: 1-108.*

- Discourse – the discrete narrative used to express a particular viewpoint, argument or case which constitutes a claim used within the claim-making process of the conflict.
- Environmental values – one of the aspects of culture that inform peoples' sense of the environment and its status and worth, and the understanding, knowledges and beliefs that people hold as part of their culture also play a determining role in establishing their relationship with the environment; where there are cultural differences between claim-makers involved in environmental or natural resource use conflicts, these shape their interactions in the relationships between claim-makers; this is in addition to other claim-makers that will determine the balance of power in each relationship and the extent to which their culturally-determined values influence claim-makers' actions within the conflict and how it is resolved.
- Environmental policy-making process – a government-led political process of the definition and 'operationalisation' of multi-scalar environmental management, at several, if not all, of its many stages involving a range of selected groups recognised as having various degrees of rights, interests and/or some form of knowledge regarding the future quality and function of the natural and man-made environment in which they live.
- Local decision-making – the process whereby local authorities, elected officials, parish councils, and communities consult their constituents over matters within their competencies and direct interests and to arrive at a common position through negotiation and discussion.
- Local knowledge – a form of knowledge that can be seen in opposition to Western scientific knowledge, held collectively by the local population; a cumulative and complex body of knowledge, know-how, practices and representations that are maintained and developed by the local people through their interactions with the natural environment; a cognitive system that is also part of a complex that includes language, attachment to place, spirituality and worldview, it is not bounded but constantly evolving through the syncretism of simultaneously local and global production.
- Nature – a discursively mediated construction, not circumscribed by fixed boundaries and not set up in opposition to society, socially constructed to describe the environment in which and with which members of society interact
- Power – is a concept primarily understood in political ecology "*in relation to the ability of an actor to control their own interaction with the environment and the interaction of other actors within the environment.*" (Bryant and Bailey 1997) with a particular concern with the control that certain claim-makers have to determine the environment of other claim-makers, the forms of control, and the ability of the weaker claim-makers to resist more powerful claim-makers in a conflict situation.

- Knowledge *"Our knowledge is the outcome...of transactions with the social world shaped by our methods of inquiry, and of transactions with the data we produce shaped in turn by our ideas and our analytic procedures."* (Coffey and Atkinson 1996)

3.2.6 Data needs

Full compliance with all ethical and legal considerations of data collection and protection is important in all qualitative research, and I felt extremely conscious of my responsibilities as a researcher for the safety of all my informants in this volatile conflict and took great care to protect all digital voice recordings of interviews, written transcriptions and my own notes, all of which were stored within their respective software in my laptop behind several unique passwords and encryptions. I took part in the UCL Data Protection course, which explained the University's need to comply with the legislation of the UK Data Protection Act 1998, which relates specifically to personal information about living people. This Act created legal constraints for the collection, use and disposal of this personal information, the requirements of which are dealt with by UCL's Policy and Procedures. To comply with this I registered my research on UCL's Data Protection Register; on completion all my registered data are held by the UCL Records Management Service for the secure storage of completed projects. UCL's requirement to comply with the Freedom of Information Act means that not only my informants but any other person can send a written request for information relating to my research and has to receive a response within a legally-stipulated number of days stipulated by the Act. I have therefore observed all the ethical and legal considerations as stipulated by UCL in defining data needs, management and protection.

My participation in Anthropological Methods classes taught in the Department of Anthropology taught me that the 4 ethical principles of participant research are: seek permission whenever necessary; protect the identity of your informants, unless they have given permission otherwise, so that they are not embarrassed or harmed in any way by what you may say about them; treat individuals with respect and seek their cooperation in research when possible; make clear the terms of any research agreement and abide by it (UCL 2003). Following these guidelines as a novice researcher, I therefore showed full consideration of all my informants by: seeking informed consent; ensuring confidentiality, even anonymity where requested; demonstrating transparency and honesty by disclosing the purpose and scope of my research interests, even where this potentially damaged my data collection, I learned in retrospect; and respecting legality and demonstrating professionalism. All these ethical research practices I observed both in the

fieldwork and during analysis and public presentation of my results. In this project I needed to ensure the data was adequately scoped and of the required type to answer my research questions. Data scoping required me to investigate the full range of organisations, communities and individuals on all sides of the conflict. I selected my informants from within all these groups according to attributes such as their position in the conflict and degree of involvement, accessibility to me as a researcher and willingness to collaborate in the research, and reliability of the data contributed. Scoping also necessitated consideration of my use of the method of discourse analysis which required that I record full accounts of peoples' descriptions of their perceptions and understandings of their use of environmental and development discourses within the conflict. Therefore my data needs include attitude, behaviour, belief, emotion, and perception, as well as attribute and contextual data, all of which are described in more detail below:

Attribute data

Figure 4 Screen-print of data attributes collected per informant showing a selection of Case Nodes

From each informant I collected data on personal attributes such as name, gender, age range, education completed, position in the conflict, organisation, and nationality. In my NVivo7 PhD project I created a Case Node for each informant, attached to which is a list of these attributes.

In Figure 4 above you will see in the screen print the attributes which I created for each informant which I used to analyse the characteristics of this purposively selected sample in terms of trends and identification of any gaps and/or bias, and corrected this during fieldwork. I facilitated the analysis of the different claim-makers by creating my own typology of case specific characteristics for which I created an attribute table for every case in the research, each of which represents a claim-maker either an organisation or an individual. As you see in Figure 4 screen-print above the six attributes contain a range of strings specific to this project namely: *Affiliation, Age, Education, Gender, Nationality*, and *Position in Conflict*. These basic attribute-type data per case allow analysis of characteristics that categorise claim-makers grouped according to selected common attributes such as gender, nationality, or affiliation in terms of the claim-makers' access to various types of knowledge, different levels and forms of power, and their selection of particular environmental and development discourses, and also permit examination of the possible inter-relationship between these aspects. Attribute data attached to each case allow me to test the homogeneity and degree of variability of other attributes to look for correlations and exceptions as to whether and how any of the attributes influence, determine, or reflect the degree of power, access to information and knowledge, and the selection of discourses used.

Contextual data

As I carried out each interview or group interview, I recorded all pertinent information about the setting which proved relevant later on when it was sometimes hard for me to recall each individual informant and the environment of the interview. Where permission was granted, I took digital photographs at the end of each interview of the informant(s) which I stored as a link to each Case Node to refer to it as a visual reference later on. On my return to the participants in the rural communities I took copies of all these photographs with me as a small gesture on my part which seemed to be appreciated, and to build a degree of trust that I returned.

Belief data

I asked for information regarding the beliefs of informants, in the sense of whether they believed that the operation of the copper mine will cause certain environmental impacts or not. Also I asked about their belief in the importance of environmental protection, how this belief came about, whether they believed this more important that economic development of the region, whether they thought that the mine will change the current communities in terms of socio-cultural aspects, and upon what evidence or information they based all these beliefs.

Attitude data

Equally for each informant I obtained data about their attitude to the copper mining conflict, how they evaluated the conflict, how they regarded the claim-making process, their evaluation of their personal role, or the role of their organisation in the conflict, and information about their sense of struggle for justice if they felt that this is what the conflict represented to them as individuals and as a community or organisation.

Behaviour data

For each organisation and informant and their respective organisation or community, I collected information on what each has done, and seeks to do in the future with regard to the mining conflict, the claim-making process and their use of development and environmental discourse.

Emotion data

Penultimately, I asked, where appropriate to do so, about the feelings and emotions of the informant with regard to the conflict, to environmental protection, and to their sense of struggle for justice, how they felt before and now, what prompted these feelings and whether there have been changes in their feelings and emotions over time.

Perception data

Finally, I looked for data on the perceptions that claim-makers hold of the power-relations between the claim-makers, the meaning of the conflict, and asked for their descriptions of the conflict within the communities as regards both its characteristics and its roots.

3.2.7 Exploratory Fieldwork

Avoiding the problem of "*...what happens when we arrive in the field and people aren't very interested...*" can be avoided by a pre-fieldwork trip which is essential for the planning of any thesis or large-scale research project (Kottak 1998). To ensure the local relevance and interest of my research I prepared for a period of pre-fieldwork in late 2004, concurrently developing: my initial general research questions for fieldwork purposes; a set of operational definitions; a set of criteria to use in the identification of the case study; a description of the eventual methodology of empirical data collection, namely grounded theory (Glaser and Strauss 1967) applied to a case study, its study population, methods of unstructured and semi-structured interviews; and a work plan for the duration of the 10 week fieldwork period preparing a set of objectives to achieve, namely: language acquisition, choice of case study, test of methodology and research questions, collection of primary data from which to make preliminary findings, and secondary data

compilation. For the case study and its study population I envisaged a list of claim-makers that I would encounter in the field, namely: local communities, community based organisations, local and national environmental NGOs, local government, national government ministries, international NGOs and businesses, university researchers and other unspecified claim-makers. I decided to use semi-structured interviewing techniques to elicit basic attribute data about the groups and to start gathering information about the nature and history of the conflict, the interests of each group of claim-makers and the power-dynamics at play. On returning from pre-fieldwork in late 2004, during which I also undertook the first of 2 months of intensive language training essential to communicate with Spanish-speaking local people, I produced a Back To Office Report to summarise how the experience and data collection of the exploratory fieldwork informed: the selection of the case study in Cantón Cotacachi; the development and refinement of the general and research questions, and the operational definitions; the research methodology and methods for data collection and analysis, and finally, preparing for the actual fieldwork period.

Case study identification was not as straightforward a process as I had imagined but the experience of identifying the most suitable case was aided considerably by the selection criteria drawn up during fieldwork preparation. These criteria kept my focus clear when I was presented with numerous possible case studies by the NGOs I interviewed in Quito as part of my selection process, each fascinating in their own right but representing too large a deviation from my intended field of investigation. I considered a World Bank-funded project in the coastal province of Guayaquil where a team of Ecuadorian archaeologists, social anthropologists and geographers had been investigating the *albarradas* used in centuries past by farmers and villages to collect excess water during the short rainy season to use for irrigation in the long dry season. I had hoped to carry out my PhD research as part of a multi-disciplinary team from which I could have learned a great deal and contributed from my own professional background, but on visiting Guayaquil and meeting the principal investigators it finally emerged that the project is in an interim phase between funding so I was not able to join. Another project I considered was based in the Ecuadorian Amazon, where petroleum extraction has wreaked havoc on the biodiversity of species, habitats and indigenous, non-*mestizo* communities in the area. I spent a fascinating 10 days exploring the area with local guides from the 4 main ethnic groups to test the case against my selection criteria. While an extremely interesting case study of socio-environmental conflict, I reluctantly rejected this too, for the reason that it lacked an ongoing environmental development policy-making process within which I could study the conflict.

A socio-environmental conflict between mineral extraction and biodiversity conservation - *in the mid-1990s with Mitsubishi, and then again with Ascendant Copper Corporation from 2003*;

An ongoing environmental policy-making process - *initiated and lead by the Asamblea Unidad Cantonal created in the mid-1990s with the election of a new and still incumbent Mayor from the Pachakutik Party*;

Local, national and international claim-makers involved in the socio-environmental conflict - *with local communities, DECOIN and CODEGAM as the 2 opposing community based organisations, national and international environmental NGOs Acción Ecológica and Rainforest Concern respectively, local and national governments, and an international mining company*;

Evidence of the use of development and environmental knowledge in contesting the conflict - *employed in the capacity-building programme lead by Acción Ecológica, DECOIN and the AUC throughout the Intag zone since the mid-1990s*;

Availability and accessibility of primary and secondary data - *good prospects from the local community and environmental NGO-side, uncertain from pro-mining side and mining company as not approached so far;*

Accessibility to all claim-makers in the study population via gatekeepers - *in Quito accessibility is good as they are accustomed to researchers, for the local communities need to ensure the support of key activists to act as gatekeepers*;

Feasibility of investigating general research questions within this case - *highly possible*;

Suitability of proposed research methodology and methods - *apparently suitable on the basis of initial unstructured interviews in Cotacachi and Quito*;

Accessibility of study area in terms of communications and public transport - *difficulties to access local communities where there is an unreliable single telephone line, and also hard to access solely by public transport, especially in the rainy season when the roads become impassable; in comparison there is easy access to and communication with claim-makers located in Quito*;

Cost of living in local accommodation and using local transport - *within budget*

Researcher's own intuition about the feel of the case to engage with over time - *positive*

Figure 5 Case study selection criteria and their match with the Intag mining & biodiversity conflict

My eventual choice of Cantón Cotacachi has been a national example of participative democracy and of participatory budgeting since 1996 as well as the first Ecological County to be designated in Ecuador. The apparent differences of this model of development and relatively advanced environmental policy-making process showed a good fit with my case study selection criteria. This is explained above in Figure 5 in terms of the case study selection criteria. On carrying out some preliminary interviews with environmental staff in the municipality and the office of the County Assembly it became evident that the origin and driving force behind the initiation and development of environmental policy in the County was attributed to the arrival of a Japanese copper mining company in the sub-tropical zone in the mid-1990s. The threat that this was perceived as posing to the natural environment and well-being of several local communities was the catalyst for direct action and subsequent development of environmental awareness among the local population, an element of which has ever since contested any further mining threats on the basis of their potential impacts on the biodiversity and natural environment of Intag. This process of claim-making by the various claim-makers in the sub-tropical zone, the various NGOs that are working there, and the municipality and Assembly presented me with a fascinating case study within which I could set out to explore some key research questions which I refined over the time spent in Cotacachi and with the local communities so that it reflected their reality, and therefore was researchable in terms of scope and nature, and also the available time, resources and skills of a sole and novice qualitative researcher.

The acquisition of relevant secondary data, in the form of a collection of relevant Ecuadorian academic literature and local and national government reports provided me with background material for the case study. Using these secondary data and the data collected from some pilot semi-structured interviews with the environmental staff of the municipality and the Asamblea Unidad Cantonal (AUC) in Cotacachi, and the Minerals Campaign Coordinator of the national NGO Acción Ecológica in Quito, as I tested out my methodology and methods there, I was able to validate my general research questions presented above, see where I could make refinements to my specific questions about the conflict and the claim-makers, and clarify my operational definitions, for example of the environmental policy-making process, power, nature, and (local) discourse and knowledge, as I had to explain my research and its scope to non-researchers. It was my good fortune to be able to take part in a whole day extraordinary meeting of the AUC which had been called to debate the mining conflict. That provided an extremely valuable introduction to the central issues and concerns and divisions of opinion within the local community as there was some dissension from the widely-held view against mining. All the above

contributed to my project design process and informed my preparations for entering the field officially as an independent researcher to investigate the dynamics of this particular natural resource use conflict in the sub-tropical zone of Intag, Cantón Cotacachi.

3.2.8 Fieldwork proper

Whilst in Ecuador I continued with my review of the existing literature on political ecology and environmental conflict in the Latin America generally and Ecuador in particular, using sources such as literature from Latin American research institutes, international financial institutions, international development agencies, donor country documentation, official Ecuadorian publications and laws of the Ecuadorian State *etc.* This assisted with my ongoing construction of an analytical or theoretical framework with which to work in the analytical component of the research. I also reviewed all the literature I could find on the Intag conflict from sources such as the Asamblea de Unidad Cantonal, Ascendant Copper Corporation, the NGOs like Acción Ecológica and DECOIN, the Municipalidad Cantonal de Cotacachi, Ministries like Energy and Mines and the Environment, back copies of the *Intag Periódico,* as well as the legal framework as refers to the human, development and environmental rights and duties of all the parties in the conflict.

Having prepared with all this background information on the case study itself, and taken another month of intensive language tuition, I moved out of the capital Quito to live in the town of Cotacachi, the seat of the Municipal Government and the County Assembly of Unity, from where I could make regular forays both into Quito and also down into the Intag zone by local transport to meet and interview prospective informants, starting with just presenting myself and the independent and all-party nature of my research. After time spent familiarising myself with the Intag area and its communities and local organisations by spending time with members of the *mestizo* communities most affected by the mining conflict, I organised a programme of semi-structured interviews both with key Quito-based claim-makers in their offices and also with the key grassroots claim-makers and other claim-makers involved in the conflict at the local community and municipal level, including all interested parties. These interviews took place with, *inter alia*, the CEO and Managing Director of the mining company and staff, leaders of DECOIN, members of the Asamblea, the Mayor and officials of the Municipality of Cotacachi, relevant Ministry officials, staff of high profile environmental NGOs, the Editor of the *Intag Periódico,* and Presidents and members of local communities. In total my data set includes 43 cases across all the institutions and organisations in the conflict.

An illustration of the cases and the attribute data collected for each case is shown in Figure 4 above where all my data are stored within the NVivo7 project software. Meanwhile I transcribed these interviews, my field diaries and working Journals, the hugely time-consuming task of accurate interview transcription continuing long after leaving the field. I used the CAQDAS project software NVivo2 and then upgraded to NVivo7 for all the handling, storing and analysis of the data and paid particular attention to comparing and analysing the environmental and development discourses of all the claim-makers studied to seek to build my theory up from the data, according to the grounded theory methodology.

3.3 Qualitative Research Methodologies, Epistemology and Ontology

Underlying all methodological choice is the well-established debate about the relationship between social science and scientific method which is expressed in the divergence of views about the philosophy of knowledge. Rationalism on one hand takes the position that there are *a priori* universal truths which the human capacity to reason will reveal progressively, and on the other hand empiricism takes the view that we acquire knowledge from sensory experience (Bernard 1998). At the level of social science there is also the divergence between positivism and humanism or interpretivism; positivism argues that the methods of science can be applied to human behaviour and humanism argues that they are totally inappropriate because the perception of reality is a product of the human mind. The founder of phenomenology, Husserl, argued that because of the uniqueness of human thought and action we can only know the world through an understanding of consciousness and perception, and therefore we can only comprehend social life through an understanding of the meanings that people give to their reality. I am taking this position in my research and therefore the role of human perception and meaning are central to my *epistemological approach* which is concerned with qualitative enquiry but which does not preclude the collection and use of quantification observations where they serve to strengthen and clarify the data.

The nature of qualitative research is non-linear and iterative, with regular well-planned feedback loops which serve to move the project forward as understanding develops from the data. This process allows for shifts to new questions and diversions for interviews with people who become relevant to the research. Qualitative research needs a strong design process through which the project's goal and means of achieving it are set out, with regular revisiting of the questions of what data and methods of their analysis are required as the project progresses.

I considered various approaches to this research of which the most suitable include: phenomenology, for studying things as they are happening and this is a dynamic case study; interpretivism, as concerned with understanding the meaning of individual's subjective experiences of their world rather than objective facts, empathising with informants although they have unique constructions of their own reality, and because this research constructs a picture of the process and context of the social changes and the reasons for these changes through analysing qualitative data; and finally, structuration theory which is concerned with the inter-relationship between agency and action, and structure through the medium of institutions, and the way in which social claim-makers use institutionally-defined systems to act within a framework of unacknowledged conditions and unintended consequences.

3.3.1 Qualitative Research Methodologies

A strong motivation for me to learn about qualitative research is that I feel that it's important to have an appreciation of a range of methods because there will be times when I need to "*...evaluate and interpret the quality of publications*" (Burton 2000) in my research area that use a qualitative approach. Another driver is to use the opportunity I created by deliberately moving away from a known area of expertise and teaching MSc programmes to becoming a student again myself to learn not just in terms of knowledge but methodology and methods too. I therefore took classes in anthropological methods for the first year of the PhD and participated in all the practical sessions and tasks in order to learn and practice these particular qualitative research methods which I can now apply. The reason for undertaking a PhD at this stage in my professional career, which to date provided opportunities mainly for working with quantitative data, was to learn how to conduct a research project using qualitative data, thus how to collect, handle and analyse these data. Ultimately I would like to bring these two types of data together to enhance the value of both, but a mixed methods approach is beyond the scope of this current work and intended for a post-doctoral project.

However the overriding reason that I have chosen the qualitative research approach is because my research tries to learn something new, as opposed to testing something known already, through the literature review. In my reading about the different qualitative methodologies and their use in other studies I noted that many qualitative research projects use grounded theory as their main methodology. The roots of grounded theory in pragmatism means that theory is only valued by "*how well it addresses real practical needs and how it works in practice*" (Denscombe 2003) as opposed to the application of theory at the abstract level; and the appeal of this philosophy of

practical application of new understanding is particularly strong for me in the context of research in the realm of socio-environmental conflicts and their resolution. This project did not rely on just one pure methodology but used a combination of the most appropriate methodologies to address the research question, analyse the data, and arrive at the fullest possible understanding of the ways in which environmental and development discourses are being employed within political struggles over natural resource extraction. I was conscious of how my chosen approach to the project and the questions posed affected the data collected and tried to consider the possible alternative outcomes that could have arisen from the application of another methodological approach and different formulations of the research questions.

The choice of methods available to me ranged from the very individual, personal, non-replicable methods such as unstructured interviews, through semi-structured interviews which aim to elicit general patterns and forms of common knowledge from a specific group of people, to the structured, replicable methods of interviews and questionnaires which can be applied to varying populations. I was interested to examine the methodology and methods used by others in the field in Ecuador: one study carried out in Andean villages interested me because it was also looking at meanings, in this case of poverty. This large-scale study chose not to use questionnaires from the outset. Instead it made the case that topics that involve asking about meanings that phenomena hold for local people, in this case over poverty, "*tend to be difficult to grasp correctly with standardised questionnaires*" (Hentschel 2002:34) and therefore research at the village level is necessary to gather contextual data which in this case was then used to supplement and validate national household surveys. It seems that qualitative data are used in all sorts of research fields in this way, to inform the design of questionnaires sent to a large sample for the collection of quantitative data.

3.3.2 Heuristic Methodology

Examining different research methodologies, I was drawn to the heuristic methodology, which reflects my eventual definition of research question, which in turn reflects my own experiences in environmental conflict resolution and mediation, and my concern for environmental justice for the greater part of my professional life. As Moustakas (1990:15) stipulates with heuristic research "*the question is one that has been a personal challenge and puzzlement in the search to understand one's self and the world in which one lives.*" As a chartered environmental development planning professional, this was always going to be my choice of research focus and from the early stages of problem definition my personal interest concerned the motivation of

certain claim-makers in environmental and natural resource use conflicts to self-identify as 'environmentalists' or 'ecologists', or 'developmentalists', and to try to understand how this self-identification came about, whether it is a consequence of the unequal power relations within the conflict and their sense of struggle for justice and self-determination of future forms of development or whether this is a reflection of each party's knowledge, valuing of and relationship with their environment. Therefore I would like to declare here that in part the methodology that is used is heuristic in nature. This does not compromise my methodological choices however it does influence the filter of questions and my interpretations.

3.3.3 Discourse Analysis

Discourse analysis provides one possible approach of many to the study of socio-environmental conflicts. According to Neumann (2005:102) "*the role of discourse theory and discourse analysis in political ecology is still very much under discussion*" with critics of post-structuralism indicating "*...some of the limitations of a strong social constructivism that stresses idealist abstractions while neglecting materialist analyses... [while recognising that] ...attention to discursive constructions of environment and development have been and will remain critical in analyses of the rationale for and consequences of state and international interventions to alter local land and resource uses*" (*ibid*:102). In carrying out an analysis of the environmental and development discourses used by a range of claim-makers a discourse analysis methodology offers the best fit with my research questions, and, despite its critiques and in knowledge of its limitations I could apply this form of analysis to my empirical data using well-documented approaches (Hajer 1997) (Rydin 2005).

3.4 Computer Assisted Qualitative Data Analysis Software (CAQDAS)

Having used computer assisted geospatial data analysis software it was logical for me to seek out computer software to assist in the analysis of qualitative data. Early on I came across the CAQDAS Networking Project, a UK Economic and Social Research Council research methods programme, which addresses both methodological and epistemological issues arising from the use of computer assisted qualitative data analysis, as well as offering information, training and practical advice and support on a range of programmes available. In 2006 the software available for purchase included: *ATLAS.ti, Ethnograph, Hyper Research, MAXqda, N4, N6, NVivo2* and *NVivo7*, and *Qualrus*. I was able to experiment with a couple of the packages before selecting NVivo2 to take into the field, and then on my return its new sister NVivo7 as the most suitable for my particular research needs involving the analysis of a range of qualitative data. At the time it

was the first software to offer the functionality of relationships between coded nodes and dynamic modelling of codes and documents, function options shown on the screen-print Figure 6 below. I invested in training at Durham University in the use of NVivo2 in order to learn functionalities most time-efficiently from trainers who are experienced NVivo users; and similarly in the use of NVivo7 on its launch in March 2006 when I took part in its first UK training and launch seminar given by the software's original designers and users Lynn and Tom Richards. As I finish this project in late 2007 NVivo8 is being beta-tested and I look forward to the additional multimedia facilities it offers including working with photographic images and audio data.

Figure 6 Screen-print of NVivo7 Project PhD showing Documents interface & interview transcripts

In June 2006 I was invited by the ESRC-funded CAQDAS Project Coordinators to present my work at their annual project seminar. Each step of project design was logged in my main Journal where I also recorded daily research activities and tasks completed to keep me motivated with a sense of what I achieved in past months! As recommended best practice by many experienced qualitative researchers, for the purpose of maintaining a well-documented trail I also kept specific Journals for both my ongoing Literature Review process and Methodology work in which I recorded significant decisions and the changes that I made and reasons why, so that my account of this research process is transparent for later reference. None of my journals are provided in

this thesis as they are for reference only, serving the function of writing up how my decisions show coherence with my research questions and their refinement over the fieldwork periods.

3.5 Qualitative Research Methods

3.5.1 Research Strategy

Following another study in rural Ecuador, which also sought to elicit perceptions (Hentschel 2002), my strategy was to carry out key informant interviews with formal and informal leaders in the communities, as well as the other organisations involved in the conflict. These interviews began with a round of unstructured discussions in which the key issues were brought out; then followed by a more extensive set of semi-structured interviews using a thematic guide developed from an analysis of the transcripts of the first round of interviews with an initial coding of themes. Using the thematic guide for the second series ensured the possibility, if required, of an aggregation of the responses later on. The three main themes covered were the general research question topics: the perception of the value of the environment and biodiversity; the perception of the threat and opportunities of mining activities to the environment and biodiversity as well as to society, culture and the economy; and the perception of the power-relationship between claim-makers in the conflict.

3.5.2 Literature Review

One of the initial steps that I undertook as part of the research design process was to carry out a scoping of the literature in the broad area of investigation that I had identified; this literature review was an initial scan to identify either theories to test, or gaps which new research could address. It included books and articles in the fields of political ecology, the 'commons', environmental sociology, critical geography, local environmental knowledge and environmental discourse, among others. This review was carried out in order to identify my central research problem or issue, to determine the purpose and the focus of the research, and to develop a theoretical framework, all of which I was able to validate in Ecuador during the exploratory fieldwork period. The iterative and reflexive literature review process is similar to the analysis of fieldwork data, using a process of categorisation in my literature selection and noting in my Literature Review Journal not only what I read but also why I selected it. The selection of literature carries the same risks as snowball sampling and so requires evidence and arguments for the selections made *e.g.* using Citation indexes to identify the most quoted authors, key journals, and references and bibliographies of key articles.

While based in the field, learning about what the research questions are from a basis in reality I carried out an ongoing review of the most suitable literature located in the thematic areas identified as requiring research. I intended that my literature review would be strong in terms of relevance, strongly connected to realistic research questions, and that as a final outcome the thesis make a contribution to the literature in its field and bring a deeper understanding than is currently reflected in books and articles.

As a tool for my literature review I used the CAQDAS software to create proxy documents for each book and article, to summarise the main points of the argument, for later referencing and citation purposes, as well as store key quotations to cite later on; additionally I coded the text I wrote so that I could interrogate all my notes at any stage to look for references by some or all authors on specific topics that I created nodes for. I carried out this process within NVivo7 where I store my Journals, including one specifically on the literature review process in which I recorded my steps, thoughts, reasoning, and selection process, and interview transcripts. At a later stage I could easily search all types of document and bring the theoretical part of the project together with the primary data as part of the analysis and conclusions and general theory-building process carried out. All proxy documents and original digital .pdf files are stored within the project which I back-up every 3 days; I also burned a copy onto CD each time before returning to the field with my laptop.

3.5.3 Purposive sampling

Purposive or non-probability sampling is an accepted technique in research carried out within the Social Sciences which use case studies. As opposed to probability sampling, in this form of sampling the probability of each case being selected from the total population is unknown. This makes it impossible to make statistical inferences about the population from those cases sampled with any validity. Equally, a sample so selected is not representative and therefore cannot be used later as the basis for any form of broad generalisations. This research project was consciously case specific in its sampling and its conclusions. I purposively sampled informants, both in local communities most likely to be affected by the copper mine, which I recognise are heterogeneous and "*stratified by a series of interrelated dimensions including access to land, ethnicity, and gender*" (Hentschel 2002), as well as in organisations operating at a more strategic level that are mainly, though not exclusively, against the mine and which are therefore mobilising efforts to campaign against the mine.

I decided against the use of questionnaires as this form of data collection is too standardised and structured to be suitable for the purposes of my research and for the informants with whom I worked. Relevance, quality, and the depth and breadth of the scope of data were the requirements of my qualitative research far more than the quantity of data and number of respondents that a questionnaire survey would generate. On a practical level too, most of my rurally-based informants were impossible to reach with a questionnaire given their location and the nature of postal communications in rural Ecuador so the rate of response would be so low as to not make it worthwhile. While questionnaires can permit questions about attitudes, beliefs, behaviour and the personal characteristics of respondents, I used other more suitable methods to obtain this kind of information, as I describe below in the discussion in qualitative interviewing methods.

3.5.4 Qualitative interviewing

Qualitative interviewing has a number of distinct characteristics: data collection uses voice recording and a list of discussion topics; the sample size is not large, it is unlikely to be representative, its content emerges through the pursuit of grounded theory growing until the research reaches what is called saturation point where nothing new is being revealed through the interviewing process; the interviews are unique, although each covers the same set of key topics, so you cannot perform point-by-point comparison of data and interviews because topics may have been covered in a different order and level of detail, as well as using different vocabulary or languages; this means that most analytic decisions about the data analysis of loosely structured data framed in categories and in the respondents' own idiom and language, will often be made after interviews are completed.

An interview is a tool for collecting primary data that takes place in the form of a conversation between the interviewer and the respondent with the purpose of eliciting certain information from the informant. Quantitative research methods commonly use structured interviews as a method. These are characterised by a standardised format, style of interview, and question schedule, and generally allow no investigation of feelings and emotions and therefore given the nature of my research I discounted this highly formal and structured form of interview in favour of more informal and less structured, though still guided, forms of interaction between me as the interviewer and the interviewee(s). Indeed I had experience of carrying out 20 highly structured interviews in a 3 month consultancy project that I undertook for a UK client before returning to Ecuador for fieldwork.

This method was suitable for the purposes of that particular research project where the client had already stipulated the areas of investigation and required that I used the same broad headings for my questioning of study participants so the final report could synthesis the findings of my research with those of the remainder of the project. In carrying out my research I learned how to use CAQDAS software for a small project, in preparation for this larger research endeavour, and also was able to test digital voice recording and transcription equipment and software that I intended to invest in for the purposes of my field, where I used the unobtrusive high quality stereo digital voice recorder, with the informed consent of informants, to make accurate records of interviews.

In this research I used interviews as a primary and complementary method of data collection, alongside sources of secondary data such as documents and reports, legislation, maps and the internet pages of my informants' organisations in order to collect and clarify their views, perceptions, attitudes and perspectives that are not communicable through forms of secondary data. Bernard (2002) p204 sees that "*there is a continuum of interview situations based on the amount of control we try to exercise over other people's responses. These different types of interview produce different types of data that are useful for different types of research projects and that appeal to different types of researcher.*" He recommends unstructured interviewing as a method for its versatility, the opportunity it gives for building rapport with people before doing interviews and its use "*for studying sensitive issues... hot political topics*" (Bernard 2002:207) noting that he finds it "*particularly useful in studying conflict.*"

I decided to carry out all the fieldwork, including all the interviews myself, despite the constraints of time and sample size that this implied, but for the reason that it allowed me to meet many people who are involved in the conflict, to obtain contextual information, to systematically adapt my questions according to the person and the situation, and because I thought my analysis more realistic because I had my own awareness of the limitations of the data and how well or poorly my questions were either understood or answered.

3.5.5 Qualitative interviewing methods

These include the following dimensions:

Negotiating access

As I wanted to make my research and presence official, the very first step was to negotiate a cultural-exchange visa for Ecuador as a visiting research student which required drawing on contacts in the country from my previous professional work who could support my work by providing the necessary institutional framework that the Consul required to guarantee my safety and security while in his country. As noted "*...visiting researchers need to anticipate the requirements of conducting their research in a host nation, which can be governed by strict regulations or more informal mechanisms...*" (Margolies 1982). Our funding also influences how we are received in the field, the "*independent researcher will have a different status (and probably more explaining to do in the field) that one who works for an organisation...*[because] *the benefits to be derived from participating in independent research are often unclear*" so that the researcher has to sell the project far more (Kottak 1998:753) so you will need people to facilitate your research and its important to remember them afterwards too. This I did through basing myself in the County town of Cotacachi, the administrative and service centre for the County of Cotacachi, from where I was able to make contact with organisations working at this level, as well as more locally and nationally, by travelling by local transport to the capital city or into the rural areas where locally-based environmental NGOs, other organisations and the local communities are situated, between 3-7 hours travel time each way.

As this is a highly tense, politically-charged topic to be researching, I found people at the local level to be initially and some continually quite distrustful of me and my motivation and interest. This is reminiscent of the classic account of the importance of a gatekeeper given in the study of a gang (Whyte 1943). I therefore invested a lot of time in building up my credibility as an independent, self-funded researcher, by making regular visits to the capital city and to the rural communities where I spent time firstly just as a volunteer. This helped me to get to know the main organisations and community members that are actively working against the mine, to show them that my intentions were to carry out independent research on the conflict situation and their development of future strategies, and to gain their trust and confidence.

I did all this before doing any kind of interviews: and it was a time-consuming but essential piece of groundwork necessitated by my field of investigation. After some months I was being actively

invited to go to visit and spend time in the most environmentally-conscious communities by their Presidents or other leading members. I interpreted this as meaning that the people there were ready and willing, even wanting, to talk to me about their experiences and activities, ideas and perceptions of their situation. In a meeting here in Cotacachi, the former Vice-President of DECOIN and a leading figure in one of the most active communities offered to throw a party when I went to visit their communities.

At all times, and especially in the light of the mounting tensions mid-way through this fieldwork, when 200 or so members of the anti-mining communities razed the company's experimental farm and medical centre to the ground, issues of personal safety have been tantamount. Before embarking on fieldwork I completed the UCL fieldwork risk assessment form in which I made an evaluation of the likely risks of carrying out this research alone and independent of any institutional framework. I also wrote to my existing contacts in Ecuador for information they might have in this regard but none of these contacts was working in Intag so had no knowledge of the security situation.

I therefore had to use commonsense and local intelligence to guide my decisions on when and how to go into the field, but also made many journeys by local transport in poor driving conditions with unknown destination points, without adequate maps, and hike in and out of communities using local paths and tracks, even mules where this was more appropriate to navigate the steep and extremely slippery muddy hillsides when I had to cover long distances off-road in order to access all the communities and their informants during the rainy season.

Interviewing methods

Just as the literature abounds with advice on how best to carry out effective interviews, there are also many challenges to be overcome in carrying out interviews. One is as noted that "*the people we study enjoy some research projects much more than others*" and this claim-maker of their preferences as informants can influence the scope and the direction of the fieldwork that we do (Kottak 1998:252). Another is in terms of the potential power dynamics and cross-cultural issues at play when as a foreigner you are interviewing people in rural local communities. I addressed this issue by investing a good deal of time in these communities so that the people got to know me as a person not only as a foreign researcher so they related to me on this level as well. Further limitations are: the 'deference effect' "*when people tell you what they think you want to know, in order not to offend you*" (Bernard 2002:232); the 'expectancy effect' where the results

are influenced by the expectations of the researcher; and finally the 'distortion effect' which "*comes from seeing what you want to see, even when its not there*" (Bernard 2002:234). I realised too that the determining claim-maker in the interview was just how much the respondent wants to tell me, which is based on the level of trust and confidence in me, and also their character and culture, and what version of the truth and degree of honesty they chose as well. As Bernard (2002:236) observes "*Interviews are social encounters. People manipulate those encounters to whatever they think is their advantage... Expect people to over report socially desirable behaviour and to under report socially undesirable behaviour.*" As the interviewer you are therefore highly dependent on the respondents for the nature and content of their responses.

Preparing for interviews

This is a critical step, and one that is not undertaken hurriedly. I firstly tried to meet the interviewee informally for a general conversation, then using this and other secondary information I carefully designed the appropriate questions to put to each informant under the broad headings derived from my research question, to obtain the appropriate scope and type of information from each group of claim-makers in the conflict situation.

Within the interview situation

One characteristic of interviewing as a method of data collection that it is important to recognise is that interviews differ with each respondent, although they involve the same set of key topics for discussion, as the interviewer may have over the course of time in the field have built different relationships with each respondent and accordingly will behave non-uniformly. This particular variable was my responsibility to record in the case of each interview and to annotate each transcription with this information along with other contextual data. Its also worth noting that as a researcher you can sometimes be asked to express your "*own political loyalties in the context of local power struggles, contributing to the marked tend*ency *toward further politicisation of the social sciences*" (Margolies 1982); this has happened within this research where I have set out from the start to carry out an independent study of the conflict, but where a few respondents on the anti-mining side have directly asked for my opinion on the opposing sides in the conflict, with a view to deciding if I am on their side or not and how much more information they therefore wanted to share with me. I have then reiterated that I am taking an impartial position, which they cannot understand, as the resolution of this conflict requires an understanding of all the different perspectives which is only possible if you are independent and without any vested interests.

From the outset of the interview it was important to establish my credibility as a researcher and interviewer through my preparedness and knowledgeable opening comments as I introduce myself and the purpose of the particular interview. Depending on each individual I also judged whether to take an open questioning approach or at what moment it was necessary to ask highly specific and more probing questions, which I would not usually do on meeting the informant for the first time unless I judged that the situation merited or required a more interrogative style and that this was justified by the data generated through the responses. I also found it important to be conscious of all forms of non-verbal behaviour that both the informant and I used and to respond appropriately so that I rephrased questions, or made the tone lighter or more serious accordingly. I practised my listening skills in previous research projects and professional work: these skills were tested in working in a foreign language where I often found it necessary to confirm that I understood correctly by rephrasing what the informant said to me and putting back in as another question, often one that just required an affirmative or negative response. Finally, I had to consider the collection and recording of my interview data, with the ethical issues surrounding the recording of interviews for which I always obtained consent. Indeed I carefully stored all interview recordings during the research project and analysis of the data in such a way that protected the identity and privacy of each informant where this was requested, and also their security.

Following interviewing was the transcription phase which came with the unenviable task of literally transcribing entire interviews, or sections of interviews, a highly time-intensive task requiring concentration and attention to detail. These transcripts were all saved within my NVivo7 PhD project, with a data link to the *.wma* file in the DSS software where I saved, for consistency and ease of access, the original digital recording in folders matching the sets of folders in the NVivo project. This meant that my data records all comprised a textual and audio version of the data, as well as a digital photograph or video file where appropriate so there was as much contextual information as possible.

As is pointed out in The Oral History Reader "*the spoken word can very easily be mutilated when it is taken down in writing [...] some distortion is bound to arise, whatever the intention of the writer, simply by cutting out pauses and repetitions [...] and in the process, weight and balance can easily be upset.*"(Samuel 1998:389); this point is illustrated by contrasting the transcriptions of two interviews, one with a farm-worker and another with a group of villagers, not dissimilar to some of my informants, where the latter transcription conveys all the quality of the original speech including pauses, repetition, emphasis, ungrammatical parts of speech and phonetic spelling. It is

also true that when you edit your transcript you have your own objectives and interests which affect how you select quotes which to you are relevant but may not be so to your informant. The creation of data records however was a critical step as you are literally creating the data records that you worked with for the rest of the research project. With this in mind, I added all the contextual data to these files such as location, setting, time of day, atmosphere, composure and behaviour of informant. I attached the voice files to each transcript within the NVivo7 project file so that if I wanted to listen to a section again I could hear the interview recording within seconds. The next task following transcription was coding the data and interrogating it as part of the analysis. This started the process of writing memos with my observations and analysis, and small thoughts, and making connections to other relevant files and both Document and Case nodes where appropriate, as well as exploring the relationships between different Cases and coding nodes which was a new and extremely useful NVivo7's additional software functionality which allowed the type of interrogation of the data that I needed for my grounded theory methodology.

3.5.6 Research boundaries

The limits of the Intag zone, as defined by political boundaries could provide a neatly contained geographic area within which to contain my investigations, however the scope of this study reaches far beyond the local level and the communities of the sub-tropical zone. The complexity of this case study meant that it was necessary to carry out interviews with groups and organisations located in Cotacachi, the County town, Ibarra, the Provincial city of Imbabura, and the capital Quito, even with informants based in the United States and Canada, in relation to the copper mining company. This is justified by my approach looking at all claim-makers in the conflict within their institutional framework.

3.5.7 Restitution

My methodological and ethical approach involves a commitment to go back to Ecuador and communicate the results of this research project, indeed as part of the agreement I have with the Military Geographic Institute in Ecuador in exchange for digital data of the study area I will give a seminar and training course on my methodology and methods as part of this feedback process, which will also extend to the communities and organisations with which I have carried out interviews, many of which have already asked for copies of the thesis, or a summary, some even suggesting I publish the results as a book in the Spanish language. This serves to highlight the "*particularly sensitive issues of the failure to disseminate publications in the country of research*" (Margolies 1982) such as sending copies of a final publication in English and/or Spanish.

3.6 Justification of research procedures

Here I would like to set out my argument in support of my choice of methodology and methods in terms of: its feasibility in terms of resources and time available where the discourse analysis approach have been allowed by a 9 month fieldwork period in Ecuador as a sole, novice, and self-taught qualitative researcher; its suitability for addressing the issues, problems and questions underpinning the research and also its appropriateness under those circumstances for collecting the necessary type of data was in the methodological congruence with my research questions and data needs which required the use of a qualitative research and the use of discourse analysis to unpack the use of environmental and development discourses by informants from all sides of the conflict; I have strived to achieve rigour, coherence and consistency to a professional research standard within the research design process and its constituent parts, with a documented trail of the development of my approach and with the reasons for the decisions and choices I made; I set out to produce reliable, valid data collected using purposive sampling, and to conform with ethical and legal research standards of the University of London.

3.7 Limitations to methodology and methods employed

I acknowledge that there are limitations to both the methodology and methods employed, which I have referred to in the discussions above. It is important at the end of my research project to carry out a full and honest evaluation of the strengths and weaknesses of the research strategy and methods after the entire process and the decisions and choices that I made at the time. This indicates just how much I learned from this research experience and is important to inform any future research in this field by critically evaluating my approach to see how I could have carried out my research using other methods and methodologies, perhaps to better effect or with other outcomes.

There were various unexpected events arising during research, such as increased violence and tension mid-way through my fieldwork which interrupted my schedule of interviews as well as changing the entire dynamic of the conflict, which had a considerable effect on my data collection in terms of accessibility, process and nature. In terms of the CAQDAS I started with, NVivo2, the early release of NVivo7 allowed me to undertake analysis of relationships using software which had an impact on the scope and rigour of testing my emerging ideas from the data. This leads me to reflect on the constraints of resources on the quality of my findings, where I suggest that the main resource constraint has been time-pressures from parallel paid work to self-fund this PhD.

My reservation about the authenticity, accuracy, and honesty of the research findings has been alluded to in my discussions on methods such as interviewing where I would argue, unoriginally, that the quality of the data collected will determine all those characteristics of the outcome of its analysis. Where informants have been truthful with me, and I know from triangulation with other informants that some have been and others not, for various reasons including mistrust of my all-party research, then the results will reflect this situation. The researcher's dependency on informants' honesty is a major limitation.

Finally, there is a retrospective view of my methods which has been written towards the end when I have sufficient perspective on the whole research process, including the data analysis. This has been a very useful and interesting short section to write based on all my experiences which I present in concise form here and use as the basis for the recommendations I make in Chapter 8 on methods and tools for carrying out research in the areas which lead out from the research findings within the scope of this project. While I am satisfied that I took the decision to talk to informants from all sides of the conflict I am well aware of the limitations of coverage that I managed to achieve. With an actual research budget and more than one researcher then I feel that the benefits of working with a team, with the exchange of ideas and the capacity to interview a greater number of informants is an area of potentially great improvement. I could only bring my own ideas, perspectives and approaches to this research but working with experienced researchers from other disciplines and cultures would have been invaluable to my learning. Indeed qualitative research is best learned from working closely with a highly skilled researcher. I particularly missed the ability to employ local researchers from the region whose language skills and local knowledge and ability to contextualise the data and frame it in another way I think would have brought another valuable dimension to the work through the inevitable discussions about the approach and tools selected to obtain the data the questions seek to elicit. Without a framework of this kind during the design and implementation of my research methodology in the field I can only say that I still feel I have a huge amount to learn and I hope to work with experienced researchers in the post-doctoral research period with whom I can compare the methodological approaches of this thesis and the methods of data collection and analysis. On a positive note, I do feel that the intuitive approach that I used to introduce myself to the informants, to build a certain level of trust and mutual understanding, and the ethnographic methods of data collection elicited a great deal of relevant data on which to perform my analysis and sufficient to answer my central research questions.

Chapter 4 Contextualising Andean mining & biodiversity conflict

4.1 Introduction

The purpose of this chapter is to contextualise the case study: in relation to the wider development context, Andean mining and conflicts with biodiversity conservation; by describing its spatial dimensions, location and social, economic, bio-physical and political characteristics; finally complementing this mapping with a description of the key claim-makers, institutions and organisations, scattered across the landscape of the conflict which spreads out across the world from Ecuador to Canada, to Japan, the UK, and to the US.

4.2 Andean Mining and conflicts with biodiversity conservation

Firstly to present the Intag case study in the wider development context where, from a political economy perspective, the benefits and costs of copper mining are seen as disproportionately spread between mining companies and the citizens of the countries where mining is taking place. One of the reasons for this situation is that the aid regime has ensured political power lies with the loan-makers and donors of aid, not the borrowers and indebted nations. Mineral-rich countries and their peoples have not benefited from extraction of their own resources while at the same time trade liberalisation in the agricultural sector has decreased their revenues from the export of produce. This foreign trade has lead to a widening of dispossession and poverty as a result of export of both mineral commodities and agricultural products which have been the mainstays of failing donor-led national economic development policies (Graham 2007).

This situation is generally referred to as the 'resource curse', where unquantifiable social impacts are suffered by citizens of resource-rich countries without the established systems of good governance and welfare to mitigate the socio-environmental costs of mineral extraction and to ensure more equitable distribution of any benefits. From an environmental economics view, it could be argued in the case of open-cast mining that if you calculate the pure economic costs of the removal and irreversible loss of agricultural land and its productive functions as well as of forested lands and the timber and non-forestry timber products and environmental services they provide and add to these costs the costs to society of *e.g.* a 15 year mining project, then you might find that the pure economic benefits of mining are no greater than the sum of all the social, environmental, and economic capital that is already there. Indeed the finding might be that these economic benefits are worth less than the sum of all the social, economic, and environmental costs of the same mining project.

In such a case, the political economy perspective considers the important issue of the distribution of costs and benefits across society, the reasons behind this allotment, and how this affects power relations; the political ecology approach applies the same analysis to environmental goods and ills. The historical, also contemporary, logic has been to nationalise concessions for resources and foreign-owned extraction companies *e.g.* Venezuela, Bolivia in the early- and mid-2000s. Although doing so automatically confers shifts of power from outside to inside each country, power over resource control may remain centralised, and the benefits of this are open to question unless the revenues are invested equitably in social welfare and thus distributed more widely to alleviate poverty and support national wealth creation and development. Ecuador has not only 4 billion barrels of known oil reserves but rich metal deposits of mainly gold and copper which estimates put at $160 billion. Despite limited mining activities to date and election pledges to promote environmental policies, President Rafael Correa is quoted as saying that "*Ecuador will help to develop both its mining and its oilfields to lift itself out of poverty.*"(TheEconomist 2007).

The tutelage of the International Monetary Fund and the World Bank often controls resource exploitation policies through the indebtedness of mineral resource-rich countries. Already at the start of the decade in Ecuador's case the World Bank intervention was to encourage the economic exploitation of mineralised resources by the inward investment of international companies through the changes to Ecuador's Mining Law[1] to make foreign capital investment in the mining sector more economically attractive[2]. Already a primary producer of oil from the Amazon region for 30 years, Ecuador is one of the few remaining countries that still exports primary resources as raw materials. The low revenues accrued from concessions agreed in favour of extraction companies means that little benefit has been felt by the majority of her citizens in the way of socio-economic development. The traditional poverty alleviation paradigms *e.g.* projects and job creation have been part of the neoliberal approach to the redistribution of this small income from resource extraction, whereas welfare approaches *e.g.* pensions, child benefits *etc.* arguably could be more effective ways of redistributing such revenues to alleviate poverty at the micro level. Given President Correa's populist social policy approach, and the fledgling state of mining in the country, this could be an opportunity unique in Latin America to re-establish the relationship between Ecuador's national resource wealth and her citizenship with investment in national socio-economic development through welfare and rights.

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[1] CONGRESO.NACIONAL (1991). Ley de Minería. Registro Oficial Suplemento 695.

[2] Noboa-Bejarano, G. (2001). Reglamento General a la Ley de Minería, PRESIDENTE CONSTITUCIONAL DE LA REPUBLICA. **Decreto Ejecutivo 1415**.

However, there are tensions between mining and environmental conservation which mean there is political resistance to compromising nature for environmentally destructive activities such as oil development, logging, and of course mining. The nature and character of this resistance to mining is still too localised in Intag to categorise as typical of Ecuador or West Latin America. However, it is certainly neither like the resistance to foreign control of oil extraction in West Asia which sees fatalistic idealists *e.g.* suicide bombers nor in West Africa which has witnessed ethnic-identity-driven violence, as well as militarised resistance. This mining conflict in Intag is nevertheless highly significant for Ecuador and the Cantón as it is a national test case for the new mining legislation, as well as its contemporaneous national environmental legislation[1], and as the first large-scale open-cast foreign-owned copper mine in the country. In addition, this is a case which is testing the political power of local communities and the decade-old local political, policy- and decision-making process driven by the elected Mayor of the Cantón (who was the country's first Quechua politician at this level) in contesting the national-level award of the mining concessions without prior consideration of the local policy framework or consultation of the rural communities. Intag therefore can be seen as a microcosm of the way that inter-sectoral conflicts will arise between competing spatial strategies for national land-use planning and economic development planning objectives. Ecuador is now facing the political challenge of reconciling the tensions between the short- to medium-term economic gains of large-scale open-cast and deep-pit copper and gold mining to become a potentially significant primary industry for the country, and the current and long-term environmental benefits of environmental conservation. In the case of the Ishpingo Tambococha Tiputini oilfields located under the UNESCO-designated Biosphere Reserve of Yasuní Nation Park, President Correa has proposed the international community raise an annual compensation payment of half the expected exploitation income in return for preserving the rainforest. The practicalities of this are unclear, as is the feasibility, but this does go some way to placing an economic value on this area of biodiversity, and has the potential to be applied in the context of extracting protection payments for not developing open-cast copper mining in similarly environmentally significant primary cloud forests. Unlike its neighbours with established mining industries and communities and a mining culture, and despite 3 decades of petroleum extraction in Amazonia, in the Andes and their foothills where the copper and gold deposit lie, Ecuador still has the opportunity to reject open-cast mining and chose forms of economic development that will not destroy biodiversity and environmental resources.

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[1] MEA (2001). Política y Estrategia Nacional de Biodiversidad del Ecuador 2001-2010. MEA, Ministerio del Ambiente Republica del Ecuador: 1-108.

In this way, Intag could serve as a national model of the rural economic diversification as an alternative to the single economic activity of mining which would make the local economy vulnerable in its dependence on mining commodity prices as, just like in West Asia, there are no cushioning mechanisms to break the fall for the communities if copper futures prices drop and unemployment soars, or when the open-cast mine closes at the end of extraction and there is no or not enough productive land remaining for agricultural or forestry-based activities. There is evidence that if good governance is in place before the discovery of the mineral or resource then this is not a curse, *e.g.* Norway's oil. In Intag the drive to contest copper exploitation is a strong factor in the reactive development of a local policy-making process for good governance of all the natural resources in the Cantón. In 2006 a British film-maker recorded a 34 minute documentary about the Intag conflict with the leading anti-mining claimants which she entitled 'The Curse of Copper' showed at the 2006 Environmental International Film Festival in Toronto, Canada[1].

4.3 The conflict in the Intag Zone

4.3.1 The Junín Property

Figure 7 Junín as the northernmost Ascendant Copper Property Source: Ascendant Copper website 070707

Back in July 2004 when Ascendant Holdings, the original name of the junior exploration company from which Ascendant Copper was created, announced a 100% acquisition of the Junín property, it was billed as "*one of the largest undeveloped copper-molybdenum deposits in the world.*"[2]

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[1] *060724 DECOIN 'Curse of Copper'*(available for download http://www.ekostv.com/node/227)
[2] *040701 Ascendant acquires Junín concession* http://www.ascendantholdings.com

The project is comprised of three contiguous concessions in the Parish of García Moreno, known as Golden I, Golden II, and Magdalena I, which are 2,461.51, 2,443.05, and 4,660.00 hectares each respectively and 9,504.56 hectares in total[1]. The extent of the entire Junín mineral property, according to Ascendant Copper's website, is actually 19,500 hectares. The minerals concerned are copper-molybdenum, silver-gold porphyry with an inferred resource estimate of 982 million tonnes of which there will be 19.2 billion *lbs* copper and 864 million *lbs* molybdenum at 0.4%Cu cut-off grades of 0.89% Copper and 0.04% Molybdenum. In conversation with Ascendant Copper's Managing Director[2] at the time he answered my question as to the duration of the whole mining project explaining that there would be an initial 4-5 years of exploration, followed by 30 years of extraction, with annual expected profits expected to be around US$100 million of which 25% would be directed to the local area via the local municipality

In this thesis, the timeframe is but a small section of this 13 year conflict. Directed by the time limits of the PhD process, I arrived in Ecuador and identified the Junín case for my research on socio-environmental conflict, using the case study selection criteria described in Figure 5 above, by the end of 2004 when the conflict had been rumbling on for a decade or so already and my fieldwork was a discontinuous period between summer 2005 and spring 2006 only. Therefore the data I draw on to create the historical background of my study are all secondary forms of information, and my own primary data are really only a snapshot in the entire duration of the conflict, albeit quite an active period for the claim-makers and with significant changes in the claim-making process, new players entering the field, and consequently fresh tactics employed. It has been difficult to draw a definitive finishing line for my data collection. Living in Cotacachi and in daily contact with the conflict means that even once physically distant, I was still in contact with certain claim-makers, and continue to follow the unfolding of events through the various websites I have used as sources of secondary data. For the purposes of analysis however, I decided to use no more recent sources than July 2007 from the internet or personal communications and the vast majority of the data I use for analysis is my primary data and remains from the period mid-2005 to early-2006. This is a narrow period selected with modest ambitions of a sole researcher with no budget to employ assistants.

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[1] *070707 Ascendant Junin Mineral Property Location, Title, and Acquisition*

[2] *060301 ACu JCB Quito* My notes from an interview in his office which he requested was not recorded as he did not want his words to be misinterpreted.

4.3.2 A short history of mining issues in Intag 1997-2005

Intag's complex environmental and social context derives from constant exploitation of the natural environment which has resulted in deforestation of areas of cloud-forest by the colonist population living and farming in the area. In the Intag area a number of active organisations are asserting their rights over the control of local natural resources, such as biodiversity and clean stream water, which enable and strengthen community resistance to mining activities in the area. There are local conflicts between these groups in Intag, where individuals with and without legally titled lands in formalised and un-formalised communities have been co-opted by anti- and pro-mining groups, by dividing families and communities created over the past 50 years. The size of the rural community in the Parish of García Moreno in which the mining concessions lie, stood at 4682 according to the last Census (INEC 2001). Individual communities such as Junín had 260 inhabitants in 2005, see Figure 8 below, but this has been declining as some families sell their farms and land to the mining family, and move to Quito, which has had impacts on the number of children in the school where until 2006 two full-time teachers were employed but if this trend continued there would only be the requirement for one. Notable is the welcome sign to Junín which makes the community's official position completely explicit as wanting to remain with a farming and tourism-based economy and not to become a community based on mining.

Figure 8 Welcome to Junín Community, Number of Inhabitants 260, Agriculture, Dairy, Tourism, We Do Not Permit Mining Here

This conflict started in 1994 with the first interest expressed in extracting the copper reserves which lie under the Cordillera of Junín when the Japanese company Mitsubishi arrived, set up camp, and proceeded to start drilling core samples[1]. This sparked a conflict involving a wide spectrum of local, national and international claim-makers and created strategies to promote or contest the company's presence in the area. The concession area lies in the Andes' western cordillera, in one of the last remaining primary forests despite human colonisation and exploitation of 90% of the forest for timber and clearing for agriculture. The conflict has arisen in the context of an elaborated environmental policy for the whole area from efforts to conserve the area in the face of strong pressures to exploit its natural resources for timber but most significantly for underlying minerals deposits. Just as this conflict is unique, it is also dynamic. From the premise that conflicts are about competing interests then each claim-maker is constantly adjusting to the controversial situation to secure the most favourable result for their interests by identifying and a whole range of strategies (political, legal, environmental) to neutralise the their opponents.

Figure 9 Map of Cantón Cotacachi showing Parish of García Moreno where the Intag zone lies (Proaño 2005)

Located in the north-west of Andean Ecuador, Cotacachi is the name of both the Cantón and the county town where local communities are building a new paradigm of participatory democracy and environmental stewardship. Cantón Cotacachi is one of six municipalities of Imbabura Province which has a total area of 4560 km² and is located in the north-east of this province. Cotacachi is a county of 1809 km² which extends east to west from the Andes down into the sub-tropical zone known as Intag.

[1] The relationships with the first mining company were good, at first…The community allowed the engineers to do their work up on the hillside but that was until they realised what the possible consequences could be of a mine. *051007 EcoJunin RP Junin*

There are 15000 residents of Intag, a 2200 km² region located on the north-western flanks of the Ecuadorian Andes. The copper mining concession area falls within a small part of the Parroquia of Peñaherrera, but the greater part lies within the Parroquia of García Moreno (or Llurimagua), the largest of the County's Parish's with a surface area of 682.4 km², with a Parish Council seat in the small town of the same name. This Parish contains the communities of Junín, Chalguayacu Alto and Chalguayacu Bajo, and Cerro Pelado, Barcelona and El Palmal where around 400 *mestizo* families live and farm in or near the mining concession.

4.3.3 Ethnic characteristics

3 main ethnic groups live in Cantón Cotacachi: 60% of the population is indigenous *Otavalenean* Quichua, 35% is *mestizo* and 5% Afro-Ecuadorian (AUC 2002). The indigenous majority mainly lives in rural communities in the Andean zone in the East, while the *mestizo* population dominates the Urban zone in the town of Cotacachi and the Rural and Sub-tropical zone of Intag, as well as further west in areas known as Los Manduriacos and Las Golondrinas which are found in the Cantón's westernmost extreme bordering the Province of Esmeraldas. The Afro-Ecuadorian minority population lives in the contained community of Santa Rosa in the Intag zone and in scattered locations across the entire rural area.

4.3.4 Political process

All three ethnic groups are actively involved in a participatory democratic process of decision- and policy-making initiated by the indigenous Mayor, Dr. Auki Tituaña Males, in 1997 for which Cotacachi has received international awards *e.g.* the Dubai Prize for Good Governance, a process of local policy- and decision-making facilitated by the *Asamblea de Unidad Cantonal Cotacachi (AUC)* whereby an annual meeting of all interested inhabitants of the Cantón reviews and agrees plans for the year ahead in the form of strategic guidelines and work programmes for a number of thematic committees comprised of community members and supported through the dedicated secretariat of the AUC. The themes and their content are elaborated in workshops with some constant members to ensure continuity, as well as a vehicle to build social capital through new networks and working relationships that are created across the County as member collaborate on complementary projects. Through the participatory political process, the people of Cotacachi unanimously voted in 2001 for the region to be declared a *Cantón Ecológico* and have passed stringent ecological bylaws and initiated projects that promote the *Cantón Ecológico* on local and international levels which are describe in the booklet shown in Figure 10 below.

Figure 10 Front cover of the booklet which details the 2001 Cantón Ecológico Ordinance Source: AUC

These environmental bylaws lay the foundation of a legal mechanism to protect the County's natural resources and support the creation of a sustainable society in Cotacachi, guiding an integrated conservation and management plan that benefits both local communities and natural resources, aiming to become a model area for ecologically and socially benign development. The participatory planning process behind this work was initiated by the bi-lingual indigenous Mayor who set up the Asamblea de Unidad Cantonal (AUC) on election in 1997. The same Mayor and municipality continue to support this process which claims 100% participation, and is celebrated by international agencies for progress with meeting Millennium Development Goals (UN 2006). In reality the AUC annual meeting numbers under 500 participants, roughly a 35:65 female: male ratio, with the majority ethnically *mestizo*, most of whom share an anti-mining position regardless of ethnicity or gender, although a vocal minority of pro-mining *mestizos* do participate while other *mestizos* living in the Urban zone who do not support this Mayor or his Pachakutik party are conspicuous by their absence from the meetings and process.

4.3.5 Economic Activities in Intag

In the past 50 to 60 years the process of *mestizo* colonisation and forest clearing for agriculture has made the greatest impact on these cloud forest ecosystems to date but now there is the

prospect of large-scale natural resource exploitation in the form of copper mining in the Intag zone where prospecting and exploration, backed by the Ecuadorian State, the World Bank and the Japanese Development Agency (JICA) from the mid-1990s until their expulsion in 1998.

Intag's main economic sectors are agricultural: principally dairy and livestock production; bean, banana, corn and coffee cultivation; and timber production. Intag's *mestizo* dominated local farming communities, often in partnership with local and national NGOs, and the AUC and the Municipality, have actively sought and initiated alternatives to mining industry development. This is of particular concern to women who traditionally do not work in mines and whose current livelihoods are threatened with no replacement. Several environmental development projects are now taking place in Cotacachi, these include: establishing international niche markets for crafts *i.e.* leather bags and clothing, and organic produce, community eco-tourism, community forest stewardship, renewable energy, community environmental education, reforestation, forest reserves and designated local wildlife guardians. Both women and men have formed the Eco-Junín project and constructed eco-cabins for tourists; in the same village a group of women is organising a cooperative flour-milling venture; while in another village, Barcelona, the most vehemently anti-mining family has developed a cottage industry making sisal bags. This business extends throughout this community where women can now earn money without leaving their home and family. Buying fibres from another family, the father threshes and spins the fibres into a yarn which the mother and elder daughters dye using natural coloured dyes made from locally collected seeds, and then weave into bags which are sold on to the cooperative, Rio Intag. This economic enterprise sells organic, shade grown coffee and has more than 300 member families from across the Intag area, some of whom were already producing coffee, marketing its exports to Japan via The Sloth Club (see below), to Germany, Spain and the US, providing a solid alternative income-generating option to mining for the farming communities in Intag.

4.3.6 Biophysical Characteristics and Biodiversity

Ecuador's biodiversity is managed under national policies and international conventions by the Ministry of Environment (*MEA*) which produced 3 key policy documents[1] in the early 2000s for compliance with the UN Convention on Biodiversity and, in a parallel process, a specific law for

[1] *Informe 2000* (the baseline for the state of biodiversity in Ecuador), *La Política y Estrategia Nacional de Biodiversidad* (the national biodiversity policy and strategy), and *Plan de Acción para la Conservación y Uso Sustentable de la Biodiversidad* (the action plan for the conservation and sustainable use of biodiversity).

the Conservation and Sustainable Use of the Biodiversity of Ecuador[1]. Biodiversity management in Ecuador is seen as a significant component in the sustainable development of the country, indeed as one of the most important aspects of the economy and the basis of the country's natural capital on which the security of the quality of life of future generations will depend[2]. There is recognition however of the problematic of implementing national biodiversity conservation objectives and reconciling these with the diverse economic interests of the country's self-determining nations, indigenous peoples, and national and international organisations.

The Western Cordillera's Chocó-Andean Equatorial forest is one of the most biodiverse in the world with an unusually high percentage of endemic species, only estimated at around 20% as studies of flora and fauna are still incomplete. Studies suggest that until 1945 this forest covered 60 000km², at least 75% of western Ecuador but today less than 9% of the area is covered with primary forest, including the 2000 km² Ecological Reserve of Cotacachi-Cayapas and adjacent areas such as the Protected Forest of Los Cedros in the Intag zone. Cantón Cotacachi's ecosystems contain two of the world's 25 biodiversity hot spots. These far surpass the Ecuadorian Amazon in terms of species diversity: some species are endemic to this area alone. Among the mammal species there are agouti, howler monkey, jaguar, puma, ocelot, sloth, tapir and the spectacled bear; and bird species include the Andean condor, toucan barbet, cock-of-the-rock, and the plate-billed mountain toucan.

The majority of the Intag zone, including the entire mining concession area, is formed of steeply sloping hillsides known in geomorphologic terms as *relieve montañoso* of 50-70% with only a small area under 12% (SANREM, PUCE et al. 2006). The lower areas of the Intag zone are described as a mosaic of *pastizales tropicales* where there are both short cycle cultivation of tropical maize and beans, and sugar cane and *cabuya* plantations. In this area coffee is grown extensively, as well as *naranjilla.* The upper areas of the concession area are mostly covered in the cloud-forest typical of the western slopes of the Andes, with areas of sugar cane and banana plantations where colonists felled trees for timber and agricultural production for income generation to today. An analysis of soil suitability for the County (SANREM, PUCE *et al.* 2006) in the form of a composite map of topography, soil type, months of rainfall, and protected areas,

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[1] *Ley Especial para la Conservación y el Uso Sustentable de la Biodiversidad del Ecuador.*

[2] *"La biodiversidad del país constituye uno de sus elementos económicos más importantes y la base del capital natural del Ecuador; las generaciones futuras dependerán de ella para cimentar su calidad de vida". MEA (2001). Política y Estrategia Nacional de Biodiversidad del Ecuador 2001-2010. MEA, Ministerio del Ambiente Republica del Ecuador: 1-108.*

concluded that the majority of the Intag area is unsuitable for agricultural use, due to soil type and steepness of slopes which pose a threat of soil erosion, and therefore suggested more 'natural' uses which maintain and protect vegetative soil cover, although there is considerable deforestation throughout the zone. Intag contains 2 of 11 bio-climatic zones found in Canton Cotacachi: in upper areas to the north abutting the Ecological Reserve of Cotacachi-Cayapas the area is known as *Lluvioso Temperado, bosque húmedo Pre Montano*, with temperatures between 12-18ºC and annual precipitation of 2000-3000mm; and in lower areas to the south in the valley of Río Intag there is the same annual rainfall range, higher temperatures between 18-22ºC, and the area is described as *Muy Húmedo Sub-tropical, bosque muy húmedo Pre* Montano (SANREM, PUCE *et al.* 2006). The Intag zone contains at least 7 small hydrological basins which flow directly into the Río Guayllabamba, with the area of the mining concessions of this case study falling within the micro-watersheds of Río Junín, which contains the communities of Junín, Chalguayacu Alto and Chalguayacu Bajo, and of Río Chinyacu where the communities of Cerro Pelado, Barcelona and El Palmal are situated in the most fertile areas, seen in Figure 11 below. The blue-green colour denotes areas of indispensable forest protection, for the preservation of natural processes, environmental services, and biodiversity conservation; the bright blue colour shows marginal land which is suitable for farming with slight limitations and the bright yellow-green is for very limited agricultural uses according to the (SANREM, PUCE *et al.* 2006) study which used maps sourced from 1984, 1993, 2002, 2003.

Figure 11 Soil suitability map of Cantón Cotacachi and centrally located Intag Source: SANREM, PUCE *et al*

4.3.7 Socio-economic characteristics

34% of the County's population of 38 000 (INEC 2001) is concentrated in the urban areas of Cotacachi town or the parish towns, to which people have migrated in recent years in search of work and better education, with the remaining 25000 people scattered across the rural communities. The Parish of García Moreno has the lowest population density in the County, at 7 inhabitants per km² in 2001, a figure which has only increased from 5 per km² since 1974. Data from the national census (INEC 2001) shows that 44% of the population is economically active in this Parish, 51% are either children or pensioners, and 5% are of an undeclared status. Correlating with these statistics, *Sistema Integrado de Indicadores Sociales del Ecuador* (SIISE 2003) calculated that 95% of the Parish population lives in poverty, with 48% of children under the age of 5 years old classified as under-nourished. The data set (INEC 2001) shows 92% of the population as literate, one of the highest rates in the County, although in García Moreno 69% of the population had completed between 1 and 4 years of basic education, 22% had completed 5-7 years, and 9% had completed between 8-10 years of education, this last figure reflecting attendance at the 2 secondary schools in the town of García Moreno. Unfortunately there are no disaggregated data to show a breakdown in terms of ethnicity and gender.

In terms of services such as the provision of potable water, sewage, electricity, 24% of García Moreno's inhabitants are connected to a public water supply, 66% source their water directly from rivers and streams, and 10% from wells or water trucks. Only 6% of dwellings are connected to a public waste water system, 24% use septic tanks or soakaways, but 70%, the remainder of waste water going to unspecified destinations, such as directly into rivers and streams. Of the Parish's household waste, 6% is collected by lorry, 66% is dumped on open land, 9% is burned and 19% goes to unspecified destinations. According to data (INEC 2001) only 26% of the Parish's dwellings were served by electricity, but due to a municipal programme of electrification carried out since 2001 this figure is now over 50%, although the provision of telecommunications services stands at just 2% of the Parish's houses, a shortfall made up for by increasing use of private mobile phones in the elevated areas. The town of García Moreno boasts a Sub-Centre of Health, and the Parish is served in addition by a Cuban medical doctor through a cooperation programme with the government of Cuba with which the Mayor of Cotacachi County has strong links, directly with Cuba's current President Castro, as a result of which 8 medical doctors and a similar number of education professionals work across the County. The social marginality of the farming communities in Intag is closely connected to the problems the people experience with

communication technologies, and access to both secondary and tertiary education and to the markets to sell their produce. Most villages pay for a communal telephone line, often out of order, and with the installation of additional masts in 2006, farmers living in the higher areas have purchased mobile phones to communicate outside, still relying on Motorolas within the anti-mining families to communicate rapidly with each other when uninvited guests arrive from the mining company and its supporters to mobilise quickly to see these people off their land. A few children who have passed primary school go to board with family in Garcia Moreno while at secondary school, only going home at weekends; even fewer study beyond this stage.

4.4 Institutions and Organisations involved in the Intag Conflict

Using an adaptation of a system of classification of claim-makers in the field of third world political ecology (Bryant and Bailey 1997), I present the following main claim-makers in the Intag conflict:

4.4.1 The State

Ministry of Energy and Mines (Ministerio de Energía y Minas – MEM)

This is the ministry with the legal powers to grant concessions for all natural resource extraction activities in the country, including petroleum and metals such as gold and copper. There are 2 Secretaries of State with an overview of this process: one who is charged with encouraging the development of the oil and metals sector in Ecuador, and the other who has responsibility for the EIA Unit which oversees the environmental assessment process to which all concessions are subjected by law. The first Secretary of State is working hard to settle this particular conflict, calling a selected group of parties together for an extraordinary meeting, which I gate-crashed quite easily despite the security, and making it clear that he considers this concession to be legally-awarded.

Ministry of the Environment (Ministerio del Ambiente – MEA)

This ministry has legal powers for environmental protection in all national parks and ecological reserves, such as Cotacachi-Cayapas which abuts the mining concession in this case study. However it has no jurisdiction over the environmental assessment procedures and outcomes of the EIA process overseen by the *MEM*, despite having its own EIA Unit, on the staff of which there is an ex-mining company geologist. Neither Ministry foresees the merging of the 2 EIA Units in the near future as there is a clear division of responsibility for either designated natural areas of national and international biodiversity and landscape importance or all those areas outside where development activities are permitted which comply with national EIA law for non-designated areas.

National Institute for Agrarian Development (INDA)

This is the government agency, operating in decentralised offices in provinces such as Imbabura, which is responsible for the processing of land titles for communities and individual property owners. There are clearly-defined legal provisions for this process, yet there are numerous allegations made of the infamous corruption found within organisation, and the bribery required by some of its staff makes obtaining legal titles prohibitively expensive for rural communities and farmers and is a key reason for the lack of legalised communities and land titles in Intag.

Government of Canada (Canadian Embassy in Ecuador)

The Embassy of Canada, based in Quito, has its own programme of economic development which serves to promote Canadian companies' activities in the minerals exploration sector in Ecuador. In 2006 90% of such companies are Canadian. The Embassy staff are concerned that all these Canadian stock-exchange listed companies operate to the highest standards of corporate social responsibility and promote this more ethical business ethos to companies such as Ascendant Copper which has fallen short of Canadian operating standards in the past, causing the Canadian Ambassador to intervene over unethical behaviour towards the rural communities in the mining concession area where there is opposition to the company.

Municipality of Cantón Cotacachi (Municipio de Cotacachi Gobierno Local)

The municipal government of Santa Ana of Cotacachi is located on the central plaza of Cotacachi town. The local authority's indigenous Mayor and his *mestizo* Directors collaborate with the grassroots organisations such as the AUC in all its activities in the development planning of the Cantón, such as in the Participatory Budgeting activities which are carried out in the 3 main zones of the County. The 1997 Decentralisation and Social Participation Law was passed to promote local government action. Its mandate for municipalities to preserve and defend the environment by requiring environmental impact assessment studies and promoting local management of protected areas has made municipalities focus on environmental issues and develop the institutional and budgetary arrangements to do so. The Mayor, his female Deputy-Mayor and the female Director of Health and Environmental Management, are particularly active in defending the County's ecological ordinances and anti-mining position using powers of legal redress to challenge the award of the mining concession without the consultation of the municipal governing and its elected members. Despite losing this appeal, the Council remains resolutely opposed to Ascendant Copper's activities in the Intag zone, refusing to meet the company for any meeting which does not include all the organisations and groups involved in the conflict. While fighting this development, the Council is also undertaking environmental and social programmes in partnership with the many international and national NGOs, such as Ayuda en Acción, XARXA,

SODEPAU, SODEPAZ, that flock to Cotacachi for its reputation for responsible management of projects including renewable energy, river quality protection, and environmental education. By contrast, links between the municipal level of government and the provincial and national levels are weak and the relationship soured between the opposing political parties and positions in the conflict, borne out in the biased media coverage reflecting media owners' respected allegiances.

4.4.2 Multilateral institutions:

International financial institutions:

World Bank

In 2000 the World Bank was called by a complaint from DECOIN to investigate malpractice in one of its projects. It also was involved in the re-writing of Ecuador's national mining law in such a way to encourage inward investment in the minerals extraction sector by non-national, transnational, companies which would experience favourable operating and taxation conditions.

Toronto Stock Exchange

This Stock Exchange is where Ascendant Copper was floated in late 2005-early 2006. It has a reputation for high risk ventures such as mining exploration, with shareholders not only from Canada, where the majority come from, but also the UK and the USA.

International institutions:

UNESCO

The AUC decided in its 2005 Assembly to make the Intag zone declared a site of national patrimony, and also have asked the Ministry of Environment to extend the area of Cotacachi-Cayapas Ecological Reserve but so far this had not met with any response[1].

Organisation for Economic Cooperation and Development (OECD)

This organisation's Canadian National Contact Point was involved in the conflict when DECOIN submitted a complaint in May 2005 against Ascendant Copper Corporation: a complaint which DECOIN subsequently withdrew in January 2006 on the grounds that community representatives as well as DECOIN representatives should be present at the first meeting called to discuss the complaint with representatives of Ascendant, and facilitated by Quito Canadian Embassy staff[2].

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[1] AUC think that an international conservation status designation will help thwart the State's designation of the concession areas within Intag. Their claim-making strategy is to use the biodiversity and naturaleza element of the area to protect it from mining prospection and development. *Field Notes 2005-2006*

[2] Regarding the National Contact Point process DECOIN claim they called it off because the CNCP in Canada wouldn't agree to the meeting being in Spanish. Apparently DECOIN wanted to bring 8 people from the communities, from the AUC, and the municipality, though they had to chose the municipality over the AUC. DECOIN's Executive

4.4.3 Business

Transnational corporations:

Ascendant Copper

This Canadian-based Toronto Stock Exchange-listed company is the mining exploration company and owner of the 2 concessions Golden I and Golden II which were granted by the Ministry of Energy and Mines and lie in the Intag zone of Cantón Cotacachi. In March 2006 the exploration project was at the EIA stage seeking permission from the EIA Unit of *MEM* but experiencing delays due to non-compliance with the legal requirement to communicate all results of the EIS written by an accredited consultancy to the company to the local population because the local communities that will be most affected by the mining exploration activities would not permit anyone working for Ascendant Copper in any capacity to enter their settlements. The company CEO is a male US citizen, working from Denver, CO. and the latest Managing Director an Ecuadorian *mestizo* male whose track record includes successfully overseeing the controversial oil pipeline from Amazonia to the coast through some areas of particularly high biodiversity and conservation importance.

Ecuadorian companies:

Terrambiente

A Quito-based accredited environmental consultancy with a track record of working on oil and minerals extraction projects, including earlier environmental pre-studies commissioned by Ascendant Copper Corporation which were carried out on this project.

Syr-Whistler Consulting

This consultancy also worked for Ascendant Copper, producing a Social Impact Report which recommended the removal of the ex-Army General who was running the company's community relations team using intimidation and violence in the rural communities in Intag, until it was disclosed that its Managing Director had a vested interest in the success of Ascendant Copper as he was one of the previous owners of the concession and on its sale to Ascendant Copper had written in a clause which would result in him receiving a % of the profits from the mineral exploration and/or exploitation phase.

Director was quite scathing about the process, saying that when he was in Paris at the OECD offices May 2005 all the unions and NGOs there were saying that it was ineffective, too time-consuming etc. I think that for DECOIN it has already served its purpose as they used it to draw attention to their case internationally, and put pressure on Ascendant thereby. *Field Notes 2005-2006*

Ecuadorian-Canadian Chamber of Commerce

The same Canadian in charge of Syr-Whistler consultancy is the Deputy Chairman of this bi-national Chamber of Commerce which has a mining section where Ascendant Copper is listed as one of the 9 or so Canadian mining exploration companies active in Ecuador.

4.4.4 Environmental non-governmental organisations:

Grassroots organisations:

DECOIN (Defensa y Conservación Ecológica de Intag)

DECOIN is an autonomous group, the first regional environmental organisation for Intag, set up by a local *mestizo* priest, who has since been despatched to Cuba and now to Colombia by the Catholic Church, with the assistance of Acción Ecológica, a radical national environmental NGO based in Quito, with the help of its Mining Campaign. Its Executive Director is a Cuban-born male US citizen who has lived in Ecuador for 30 years and who runs eco-cabins and environmental education programmes for US university students with his family. Its President since 2005 is a *mestizo* from Intag who also chairs the AUC's Environment Committee among her many interests, yet rarely represents the organisation abroad as this task falls to the Executive Director is the only English-speaker in the DECOIN organisation. Among its many activities DECOIN is currently running a project in relation in alternative energy in Intag, to complement the other alternative economic development initiatives such as organic coffee production which emerged after contesting minerals extraction in Intag since the mid-1990s. DECOIN sees its role as representing the victims of abuse of power, intimidation, death threats, and the subject of malicious rumours and recognises that these victims' experiences are far from unique, in fact in the vast majority of poor countries where there are large-scale mining activities it is common to see the emergence of social conflicts, divisions within communities, and clearly visible deterioration and impoverishment of the cultural, economic, social and natural environment of the affected communities. As evidence they cite the experiences of the last 3 decades of petroleum activities in Ecuadorian Amazonia and the poverty of mineral rich countries like Bolivia. DECOIN has recently issued a warning that the mining companies are doing just the same as the petroleum companies in Amazonia *i.e.* spreading false information about those opposing the mine and trying to buy off local communities with fabulous offers that will be impossible to bring off, just to get their support, never informing these communities how damaging mining is for the human population, communities and their natural environment. According to DECOIN more concerning still are latest tactics of the mining company in the form of the threats to destroy the entire

grassroots process that is ongoing in the Cantón which is looking for forms of developed that are based on the concepts of justice, respect, sustainability, clean production and solidarity and which focuses on achieving local economic benefits, and the protection and promotion of cultural and biological diversity.

INTAG newspaper (Intag Periódico)

Billed as "*the first independent newspaper serving the greenest and loveliest corner of Ecuador*", this local newspaper was set up in December 2000 with the purpose of identification of problems the Inteños faced and still face as a community and to propose solutions. One of the most serious problems identified was—and still is—the threat to the health and well being of Intag's farming communities and forests posed by large-scale mining projects run by transnational corporations and supported by the Ecuadorian government's *MEM*. Another problem identified was the lack of communication as a major obstacle to keeping mining interests out of Intag's forests and to creating sustainable alternatives based on solidarity which would be compatible with the survival of Intag's farming communities and biodiversity. The newspaper, edited by a female long-term Ecuadorian resident US citizen who worked for the SIT programme in Quito previous to moving to live in Intag 10 years ago, retains its critical position and commitment to reporting events accurately from an anti-mining perspective. Volunteer journalists from countries like Spain, Italy and the US work for the newspaper for various periods.

Intag's Women's Coordinating Committee (Mujeres de Intag)

This recently-established organisation was created to serve the needs and interests of the female population of the Intag zone, and its membership represents the three ethnic groups though with a preponderance of *mestizo* women due to its location in Intag. It was set up on the initiative of the Cantón's indigenous local area elected representative, whose *mestizo* partner previously worked for Acción Ecológica in Quito on their Minerals Campaign before moving to live in Intag where she is now Coordinator of this Committee and its work. The Committee's female *mestizo* President is also Secretary of DECOIN.

Ecological Action (Acción Ecológica)

Based in Quito, this radical environmental NGO is best known for its anti-oil extraction campaigning and direct action, but also has a female *mestizo* Minerals Campaign Coordinator who supports the anti-mining activities and organisations in the Intag zone, mostly remotely now but in the past has delivered environmental awareness workshops in the rural communities where the threats and dangers of mineral extraction to the health and environment of local farming communities is explained; between October 2005 and March 2006 there was one workshop, in an area on the easternmost edge of Intag where large gold deposits have been found. The

organisation has not been openly working directly with DECOIN and its partners' campaign against Ascendant Copper, although there was an uncorroborated mention of its participation in a meeting that allegedly took place in which it was decided to raze the company's property in the zone to the ground a few days later in early December 2005.

Asociación Agroartesanal de Caficultores Río Intag (AACRI)

This is a coffee growers' association comprised of 300 Intag-based *mestizo* and *Afro-Ecuadorian* farmers which was set up in the Intag zone as one of the alternative forms of economic development available to local producers who have always grown coffee organically. To become certified organic steps had to be taken to eradicate the use of pesticides and herbicides in the surrounding fields. It is now marketed and sold as organic on the international coffee markets where it sells at a premium in Japan, and also in Spain, Germany and the US.

Regional, national and international advocacy organisations:

Consumer Solidarity Network *(Xarxa de Consum Solidari),* ***SODEPAU and SODEPAZ***

These 3 Spanish and Catalan NGOs are actively working in Cantón Cotacachi, supporting various development projects, including the Talleres Grand Valle in the Manduriacos zone west of Intag, which provide economic development alternatives to the mining activities there.

Friends of the Earth (FoE) Canada

This national branch of an international environmental campaigning NGO is actively working to represent the interests of the anti-mining campaigners such as DECOIN and to disclose and expose the negative side of Ascendant Copper's work in the Intag zone.

Junín's International Observer Programme

The brainchild of conflict studies Dr. Glen Kuecker of DePauw University, United States, this programme is designed to provide the community of Junín, which was most often visited by Ascendant's early configuration of a community relations team lead by the ex-Army General, with a continual international presence as a deterrent to such unwelcome visits and also to represent and promote the views of the community members against the mining project on an international level. It is also linked to the SIT Study Abroad Program whereby US undergraduates spend a semester in Ecuador and can elect to be an international observer for a month in Junín where they carry out community service and write a short project report.

MiningWatch Canada

This Canadian-based campaigning organisation is working together with FoE Canada to publicise and campaign for the halt to minerals extraction activities in the cloud forests of the Intag zone.

Rainforest Concern

This UK organisation works in Ecuador with a number of counterpart organisations, and particularly in Intag with DECOIN, Los Cedros Protected Forest, CIBT, and FUNEDESIN. Its aim is to complete a Chocó-Andean Rainforest Corridor, the northern phase of which was connected in spring 2002 and links the Awá Reserve on the Colombian border with the Cotacachi-Cayapas Ecological Reserve; and connect through to the Mindo Nambillo Reserve via the southern corridor. Rainforest Concern works with an emphasis on environmental education and alternative forms of economic development in order to reduce human impacts on the forests of the region, these include organic coffee cultivation, tagua palm jewellery and locally-managed eco-tourism such as the Eco-Junín initiative. Recently, alongside a London-based British philanthropist, it co-funded a British film-maker to produce the 'Curse of Copper' film about the mining conflict guided by the Executive Director of DECOIN who features prominently in the film, flanked by other male non-national activists from the US against mineral exploitation in Intag, and a few local men. The conspicuous absence of both local and female representation in the film was privately referred about to me by anti-mining Inteños[1] who have played critical roles in the conflict's mobilisation.

The Sloth Club

This Japanese organisation for slow, environmentally-sensitive living plays a key role in the export of organic coffee to Japan. It has a locally-based representative living in Cotacachi who is involved in eco-tourism visits by Japanese members of the club to the various communities in the zone including the eco-cabins at Junín.

The Cotacachi Ecology Centre

This organisation which is run by volunteers from developed countries started in the late 1990s with the aim of assisting in the participatory democracy process and Ecological County initiative by providing access to environmental information, alternative development, community eco-tourism, environmental education, permaculture, seed banks, medicinal plants and a wide range of other environmental initiatives.

Corporación de Gestión y Derecho Ambiental (ECOLEX)

ECOLEX is a Quito-based NGO advocacy organisation staffed by lawyers working for environmental protection and rights and was brought into the conflict in early 2006 at the request of DECOIN for assistance in putting the legal status of the rural communities and their official status and land titles in order; with the help of 1 female *mestizo* Ecuadorian environmental

[1] Residents of the Intag zone

lawyer, 1 bi-lingual international environmental lawyer, and 1 male *mestizo* Ecuadorian legal executive this is seen as a strategy to thwart the programme of land acquisition being pursued quite aggressively by Ascendant Copper up to the incident in early December 2005.

Grassroots claim-makers

Assembly of County Unity (Asamblea de Unidad Cantonal Cotacachi)

This small organisation, comprising a number of Committees, with its office in the central square of the town of Cotacachi opposite the Municipality, coordinates the Cotacachi Model of Local Development and Participatory Democracy and Identity. The AUC is run by a male *mestizo* President, who replaced the first President, a *mestizo* female who is now the deputy-Mayor of the Cantón. There is a *mestizo* male and indigenous female coordinating the Environmental and Gender Committees respectively. The female *mestizo* President of the Environmental Committee is also the current President of DECOIN. The motivation of Asamblea to work in the environmental arena in Intag was initially primarily because of the situation there and the need to create a common rebuttal of the mine, and secondarily to create the Cantón Ecológica, but today it is about improving the environment and the well-being of all the people and so has a far broader policy agenda reflected in the range of other committees, including tourism and health[1].

CODEGAM (Corporación de Desarrollo de García Moreno)

This organisation was set up with the help of Ascendant Copper Corporation in early 2005 as a way of planning and implementing social and infrastructural measures that would contribute to the development of the Parish of García Moreno. Its leadership includes a number of high profile local residents, one of whom was a national politician and has aspirations to devolve the Intag zone from the County of Cotacachi, another is one of the first colonists to the area, and all were highly supportive of Ascendant and its project until the company withdrew its financial support due to differences of opinion about how funds had been misappropriated in the past and how their monies were being used to support political activities and not concrete projects. As I left the area, CODEGAM had turned against Ascendant and was looking likely to join the anti-mining campaigners in blocking the company's access to the zone using road blocks *etc.*

Community and Parish Development Coordinator for Intag

A full-time employee of the Municipal Government of Cotacachi, long-term resident of the Intag zone and involved in all the major anti-mining initiatives from the outset; this Coordinator has an office in the town of Apuela, where the other grassroots organisations like DECOIN and the

[1] *050803 Asamblea CP Cotacachi* Notes from unrecorded early interview so of a general nature

Mujeres de Intag also sit, and actively represents the interests of the people of the zone at the County level as well as representing the municipality in the local area.

Committee of Communities Affected by the Mining Project

This organisation, which was started with the assistance of DECOIN, and continues with their support through funding given to DECOIN by organisations such as the Japanese Sloth Club, was established as a forum for representation of the farming communities who are against the mining project, and are lead by a resident of Chalguayacu Bajo who has risen out of this conflict as an adept local politician who has been involved in both direct actions, the first against the Japanese mining camp in 1987 when that was burned down and the second against the Canadian company's property in 2005, on both occasions he has been charged but not arrested or sentenced for his part in these actions.

Eco-Junín

This community-based eco-tourism initiative is supported by ECORED, an Otavalo-based NGO which promotes 2 other similar projects in other areas in the northern Ecuadorian Andes. The Eco-Junín group formed in 2001, and now has a membership of more than 50 local inhabitants who together over a period of a year constructed a 2-storey cane eco-cabin with accommodation for up to 12 visitors. Members have to donate 8 hours per year of their own time to the project, in trail-clearing, building-maintenance, cooking for visitors etc. and a full-time caretaker lives just below the cabins and is paid from the profits of the operation.

Parish Council of García Moreno

This organisation is currently chaired by a local female *mestizo* politician from the Pachakutik party, Ecuador's indigenous people's party which the Mayor of Cotacachi also represents. The 5 member Parish Council has been divided over the mining conflict, creating an impasse as the President holds the deciding vote but does not want to take sides. In December 2005, after the burning of its property in Intag, Ascendant Copper hired an Ecuadorian conflict resolution company known as DAIMI to help mediate between the opposing sides in the conflict and asked the Parish Council to participate as the lead organisation for development, at the same time as withdrawing its financial support for CODEGAM.

As a coda to this descriptive mapping of the claim-makers I need to explain that not all the people living in Intag and Cotacachi are active or have strong views and that I talked to a self-selecting minority of residents who are active in the conflict and are not necessarily representative of the heterogeneous mix of people there.

Chapter 5 Analysing Claim-makers and their Claims

5.1 Introduction

The purpose of this first analytical chapter is to provide: an analysis of the characteristics of the claim-makers drawing from the data needs described in the chapter on Methodology *i.e.* attributes, behaviour, belief, emotion, perception; an examination of the claims made within this conflict; and concluding with an analysis of how these claims constitute and are constitutive of the power, knowledge, and discourse dialectic.

5.2 Analysis of the characteristics of the claim-makers

The claim-makers are described in the contextual chapter that precedes this, where you can see the range of claim-makers in the conflict, representing the main categories of claim-makers (Bryant and Bailey 1997). This research concerns the strategies of engagement of different groups of claim-makers classifiable by organisational type which in this case includes profit-making companies, non-governmental organisations, communities, community and parish councils, local government, and national government departments in a situation where there is fundamental disagreement over the future development of a rural area. There are many ways of cutting the analysis of these groups and then presenting this. The most appropriate, it could be argued from a constructionist angle, is to reflect the dominant way in which the local groups within the Intag area have self-identified themselves, in a dualist fashion, simply as pro-mining and anti-mining. In the discussion that follows I elaborate more on the characteristics ascribed to each and to the subtle distinctions that are drawn within these broad categories which reflect the heterogeneity of these groups, though I acknowledge the silent majority who are not actively contesting claims but allowing the conflict to play itself out and accepting the outcome[1].

5.2.1 Convinced

The beliefs of the claim-makers in terms of their ontological understanding of the content and parameters of the conflict were expressed with a familiarity that comes from repetition. In the timeframe of the conflict, 9-10 years in, I was collecting data once people's beliefs were quite firmly established in their position, and any earlier doubts dismissed. Individual convictions on both sides however came across strongly in private conversation; some anti-mining claimants were expansive, impassioned and emotional in communicating their current viewpoint to me.[2]

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[1] So many people I meet in ordinary life are passive observers of the conflict and see the activists on both sides are promoting their own interests for political or economic gain. *Field Notes 2005-2006*

[2] *Field Notes 2005-2006*

There is an element of scepticism from certain Quito-based pro-mining quarters about how the rural anti-mining claim-makers developed their apparently deeply-held convictions of the importance of nature and biodiversity conservation. One company general manager refers to working with the same 1000 or so people directly affected but says that there are 4 main families in opposition which he considers to be '*brainwashed*' by a trip to Peru to a copper mine which operated using little current environmental technology[1]. Another example comes from the Ecuadorian- Canadian Chamber of Commerce, a member of whose Mining Committee cites this story of information dissemination as evidence of the incredible stories which are apparently being told to the anti-mining rural populations: "*DECOIN people are telling all their people that the desert in all Peru is caused by mining, and people believe them. There's even one story that came out of DECOIN, this came to me fourth-hand, that underneath the copper deposit there is a big nuclear, uranium deposit and when you dig too deep into the copper, this uranium bursts out and causes a desert like the one that was created by the mining companies in Peru.*"[2] A further consultant who had previously worked on the socialisation programme of Ascendant Copper says, "*I have to accept that at the beginning we were scared as we'd heard many many things, about people being aggressive, people being bad, people being this, and people being that; but I have to say that the people of the area they are not bad, I think that the people of the area, they are misinformed, that's my point of view.*"[3] In this way the power of the anti-mining campaign is reduced by questioning the accuracy of the information on which their claims are based.

This same approach, citing the lack of information or a full understanding of the socio-environmental risks of mining to Intag, is used by the anti-mining groups to explain how the rural pro-miners took their position and developed their equally strong beliefs in mining representing the best future economic opportunities for Intag. In order to understand something of how neighbouring rural communities become when a local mine is operational in their area I spent some time with people living in the Los Manduriacos area abutting Intag, where there has been gold mining activity for a decade already; this is not a direct comparison for many reasons, among which is the fact that this is a deep mine and less physically destructive at the surface. Here an anti-mining claim-maker describes the changes in their attitudes and material practices by how "*the people sell their criteria, they've sold their own, I'm not exactly sure how to say it*

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[1] *051003 ACu GR Quito* Unrecorded interview in office, Quito

[2] *051220 CoC LS Quito* Meeting with Vice President of Ecuadorian-Canadian Chamber of Commerce, in his offices, Quito

[3] *051220 Syr PJ Quito* Interview with Syr-Whistler General Manager in his office, Quito

[laughs] *souls to those guys when they were originally convinced that there were going to be problems, they're have now become integrated into that type of production that they're planning to do with that gold mine; they've lost or perfected, the idea was that you've got to defend your rights, that the company puts in a new water system if it contaminates all the water that you're currently using... the same people that were originally opposed to mining, today have been co-opted, I guess is the term."*[1] He goes on to describe this co-option through the loss of independence and the creation of dependence on employment and on medical services provided by the mine which has convinced people in favour of the mining, despite the deaths that have occurred[2] although he is optimistic that they will eventually make the connection between the mining contamination and fatalities.

In Intag though, extensive capacity-building exercises have ensured that information about the causal links between mining and environmental, health, and social damage are clearly understood and used in the discourses of the anti-mining claim-makers. This knowledge is based on information taken from the *JICA* EIS[3] and is supplemented by direct experiences of other mining areas that *Inteños* have been taken to by *Acción Ecológica* which have served to convince anti-mining activists of the destruction caused by an open-cast copper mine. One woman from Junín told me that her determination to work against the mine comes less from her husband's untimely death[4] than from a deep feeling for nature conservation and heartfelt conviction the mine is going to be bad for the village. She was one of a group of women who went to Perú to see an operational copper mine in a flat terrain, and on seeing the size of the excavation works, the rock spoil, as well as the tailings dam, is concerned about how this Junín mine will dispose of its spoil on such a hilly site. There was also a smelting plant, so they saw that too and it made a big impression in terms of convincing the women's group of the potential health and environmental dangers of open-cast mining in Intag, as I am sure was the intention.

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[1] *051205 Los Cedros JdC Los Cedros* Interview in the open air kitchen, Los Cedros

[2] If they were independent minded they really would defend their own, now they're employees of the company, they're defending the idea, they've done a lot on the ground, they've been there 10 years with the community doctor and all kinds of stuff, they just depend on its now, they're just numb to it now, young men are sick and starting to die from probably working in the tunnels, but still, they'll get there, you watch, you wait and see, they will go whoa, was this a mistake? *051205 Los Cedros JdC Los Cedros*

[3] The actual status of this EIS was successfully challenged in the highest level of the National Courts by Ascendant Copper in 2005 which discredited its entire contents in legal terms, removing its 'power'.

[4] At one moment he was killed over a conflict over his ownership of a piece of land up on the hillside by another local man, he had worked previously for the Japanese company, now nearly 15 years ago, widowing her at the age of 36, with 4 sons. *051007 Eco-Junín RP1 Junín*

5.2.2 Gender

The role of gender in the conflict is a predictable area of investigation as to where and how the power and knowledge dynamic lies, and the forms of knowledge and discourses used by each. The existence of clearly defined gender roles is questionable in Intag's communities where both men and women jointly started the direct action campaign against the first mining company. It was one Junín woman, and two men who were named suspects in the razing of the Japanese camp, and prosecuted, through all charges were subsequently dropped. Apparently it was the rural women too who pushed the decision taken at the meeting of the Council of the Communities in December 2006 to seize and raze Ascendant's experimental farm and medical centre[1].

Women seem to have played a key role in starting the anti-mining campaign, setting up and editing the *Intag Periódico,* starting up new economic initiatives *e.g.* natural soap-making production, flour-milling, and in fronting a number of key positions such as the first President of the AUC, Chair of the AUC Environmental Committee and in various positions within the Intag-based environmental organisation where during my fieldwork women were Secretary and President of DECOIN. The President of the Parish Council of Garcia Moreno is also a female and member of the Pachakutik Party. In 2002 the group Women's Coordination for Intag was set up by 4 female leaders from Intag, as its coordinator explains as "*La organización de mujeres, primero es una organización de base, que agrupa a grupos de mujeres que quieren trabajar por poder promover, la economía económica también física, el trabajo y las necesidades de las mujeres y por la violencia contra la mujer y sus derechos*"[2] as a way of women empowering themselves socially, politically, and economically. The group has 24 women from Junín and nearby, who are fighting the mine, though their focus is on more than opposing the mining project, their primary intention is to ensure that Intag women feel free to take their place in society and political arenas, and to demonstrate how capable they are, arguing that women need to be in the public eye and thereby throw off the discrimination and imposed restrictions of the past.[3]

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[1] *Field Notes 2005-2006*

[2] The women's organisation exists primary as a grassroots organisation, to bring together groups of women wanting to work towards the advancement of the economy, employment, and meeting women's needs, for women's rights and against violence against women. *060129 Coordinadora SC Apuela* library

[3] "*Es que las mujeres primero puedan sentirse libres para que puedan estar en todos los espacios, escuelas, en los comités, en las juntas parroquiales, que puedan hacer una buena gestión y que puedan demostrar a la sociedad, pues que son capaces y que de alguna forma han estado ahí, todo el tiempo como escondidas, pues no han salido a la vida pública, y que podemos este de acuerdo al tiempo como vamos, pues necesitamos que la mujer salga mas a la luz publica, y pueda ejercer un papel y que salgamos de discriminación y de la imposición y la que será de la ...*" *060129 Coordinadora SC Apuela*

However women are not the national or international public face of the anti-mining claim-makers, this role continues to be taken by men[1]. When the anti-mining march converged on Quito in July 2006 it was the Mayor and the President of the Council of the Communities who went in to talk to the MEM, and at all international events where DECOIN is represented it is the male expatriate Executive Director who travels there. In the community of Barcelona, see Figure 12 below, a male-headed family of 12 relocated their household 4 km below the village and constructed a new home further downhill by the roadside in order to operate the barrier across the vehicular entrance to the community, whereas in other communities such as Junín it is a female-headed household that is responsible for maintaining the barrier at the entrance, which once was a log and now is a sturdy metal chain which stops all traffic from passing unpermitted.

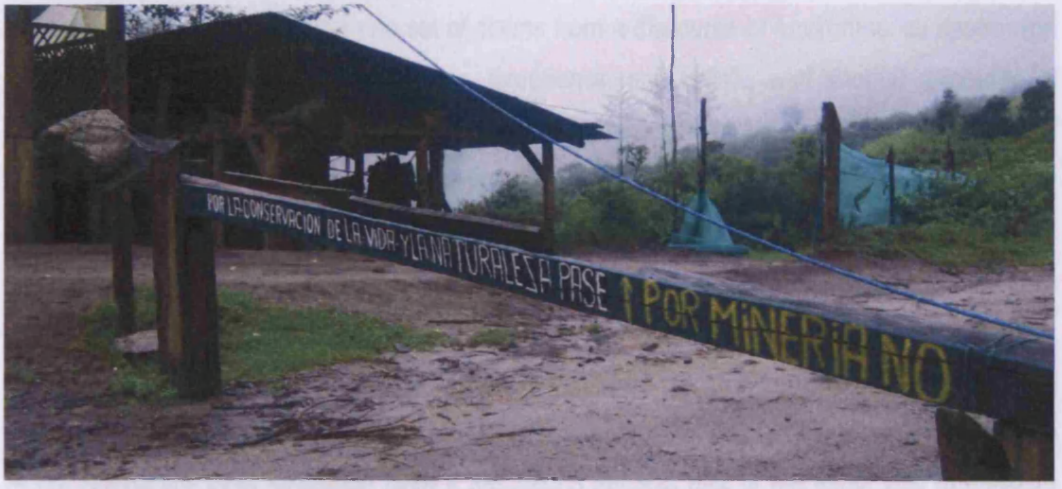

Figure 12 Entry barrier at Barcelona: Por la Conservación de la Vida y la Naturaleza Pase ↑ Por Minería No[2]

The pro-mining women, albeit less numerous and prominent in their functions within the conflict and associated actions, nonetheless have made contributions to empowering their claim. One notable instance came in the form of a letter[3] written by representatives of a pre-organisation of women of García Moreno found on the Ascendant Copper website pages for shareholders. It refers to a site visit to the Chaucha Project in Cuenca made on 29th September 2006 by these women (and technicians from Ascendant Copper, members of the Parish Council, and community leaders, all unnamed) at the company's invitation.

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[1] A number of leading women in Intag complained to me about the misogynous nature of this anti-mining organisation, giving this as one of the reasons they have left DECOIN. *Field Notes 2005-2006*

[2] Barcelona - Those for the conservation of life and nature pass through ↑ Those for mining do not pass

[3] *060929 Visita al Proyecto Chaucha: Resumen*

The purpose of this meeting was to witness the gratitude of the 22 communities there to Ascendant for guaranteed employment given to more than 40 women and over 70 men in various sustainable development and community development projects, and to meet Cuenca's Mayor and provincial advisers. Saying, *"Un mensaje que podemos dar a la Parroquia de García Moreno y sus comunidades, es tratar de acoger el beneficio y desarrollo que nos brinda la Empresa para unos mejores días de nuestros hijos, con la responsabilidad social y ambiental en la cual se esta manejando con el Proyecto Junín."*[1], the content of this text hits straight back at the concerns that the anti-mining women express above all, *i.e.* about the negative social and environmental impacts of mining which are well-documented in established mining communities elsewhere, which they have learned about via DECOIN and Acción Ecológica, MiningWatch Canada and Friends of the Earth Canada. Therefore this is also an example of information strategies and political manoeuvres to counter one set of claims from a discourse of environmental destruction and social malaise, based on knowledge, experience, and beliefs, with another discourse of economic and social well-being and environmental management based on a different set of dialectic experiences, knowledge and beliefs.

The power of both sets of women's direct experiences of mining projects which were both specifically set up to convince them of a particular argument is being used to negate the other, through the claim-making process. This could be cited as an example of the co-option of the Women of García Moreno whose letter of gratitude to Ascendant was published in the first edition of the company's local newsletter (with a pro-mining editorial bias in the same way that the 11 year old *Intag Periódico* has an explicit anti-mining predisposition). Ascendant used this example as the front page of their local newssheet in Intag, and published this on the English-language shareholder pages of the company website with a caption which has, I suggest, the intention of portraying an image to shareholders of all the women of Intag unanimously and unreservedly welcoming the mining company and the economic benefits it will bring. It is possible to mislead those unfamiliar with the naming of the towns and parishes, as both the settlement and the parish around share the same name, therefore women living in the town on García Moreno which has always been the stronghold of CODEGAM and mostly pro-mining can be easily misunderstood as being from within the concessions in the wider rural parish area of the same name where the mining activities will actually be located, and whose local women inhabitants tend to be anti-

[1] The message that we bring to García Moreno Parish Council and the local communities is to try to grab the benefits and development that the company is offering us so that our children can enjoy better lives from the socially - and environmentally-responsible way in which they are carrying out the Junín Project.

mining. A charge of presenting deliberately misleading information could, I believe, be made against the company in this case, without proper clarification of the partisan and nature of the women cited. The letter also calls for a coordinated effort by all levels of government to realise the development of this project in the best manner, ensuring compliance with all mining laws, statutes and norms, so that the company can assistant the community with their requested development projects. Finally it concludes with statement of this group of women's unconditional support for the Junín Project and the company "*Como corporation de Mujeres apoyaremos al proyecto de Junín, a la Empresa, con transparencia, seguridad, lealtad, que nos caracteriza como Mujeres. Tengan en cuenta que el grupo de Mujeres fortalecerá y brindará el apoyo incondicional.*"[1]

I see this use of women in the construction of gendered roles as an instance of the expectation of there being traditional gender roles within the rural communities. For example women can be seen as being used to portray the violent nature of the conflict and threats being made against people. At a meeting called by the Sub-Secretary of State for MEM, at which a highly selective range of claim-makers were present[2], there was a woman whose property lay in the outskirts of Chalguayacu Alto and who claimed that her family home (Ascendant Copper permits continued occupancy after transfer of the property title until such time as the land is required for mining activities) had been threatened with being seized and razed by the 'local anti-mining activists', her neighbours. Alternatively women are used to diffuse a potentially charged situation such as when the conflict escalated again over September 2006 with the alleged kidnapping of Ascendant Copper personnel by the community of Junín, after a few days it was 2 women who came in, the Deputy Mayor of Cotacachi and one time first President of AUC, accompanied by the Mayor of Cotacachi's wife, seen in Figure 13 giving the 'thumbs-up' signal to people on our side of the camera lens.

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[1] As the association of women we support the Junín project, the company, with the transparency, security, loyalty that characterises us as women. Take into account that the women's group will strengthen and offer unconditional support. *Source: 060929 Visita al Proyecto Chaucha: Resumen*

[2] First meeting called by Sub-secretary of State who was present with his Senior Official, and with C.E.O., M.D., and Community Relations Manager, all of Ascendant Copper, National Police Chief, President of Garcia Moreno, President of Chontal, Manager of eco-tourism for Los Manduriacos, Manager of Los Cedros, ex-political representative of Los Manduriacos, 2 CODEGAM members from Junín and Chalguayacu Alto (also its President), the mediator working for Ascendant Copper, and me (not formally invited but not thrown out when I entered the room, indeed Ascendant's C.E.O. came over to introduce himself and welcome me to the meeting). The assembled were from a selected list which Ascendant Copper had drawn up and was edited by the Ministry further to eliminate any more prominent figures from the communities, as well as the ex-parliamentarian and local secessionist and then leader of CODEGAM. *051221 MEM Meeting1 Quito*

Figure 13 'Patricia Espinoza y la esposa de Auki llegando en Junín' Source: DECOIN website[1]

5.2.3 Polarised identities

At the local level, more than elsewhere in this multiscalar conflict, some dominant labels and self-identities have emerged, of the [2]*mineros* and the *ecologistas,* the *fors* and *againsts* around which the claim-making process is articulated, as the mining company is well aware[3] and would like to change. These general identities have created what, from an initial impression, is a simple opposition of positions within and between[4] the rural communities, to which individuals, families, and communities aligned themselves over time which has implications for power and knowledge, discourse and the structure-agency dialectics within the family and community structures of Intag society and the agency of individual members within these structures to act and speak.

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[1] *060916 DECOIN Patricia Espinoza and Auki's wife arriving in Junín community (accessed 061010)*

[2] miners and ecologists respectively

[3] "You know, right now people identify themselves in the region as either ecologist or miner, we, the company would like to see you identify yourselves as citizens of Intag, and mining be another, you know, subject on the table for socio-economic development for the region, that's kind of the way I've been going about it." *051121 ACu AMc Quito*

[4] "It was a kind of a rollercoaster, we went to one community and they were against mining, then we went to another area, another community and they were very in favour of mining, so it was a rollercoaster, going up and down, up and down." *051220 Syr PJ Quito*

One example of this is the sale of land parcels by one brother to the company, while another brother is vehemently opposed to the land title sales, which has occurred within previously tightly-knit families in Barcelona[1]. Another example of the apparent constraints on agency created by the structure of relations within the conflict-affected communities is given by a pro-mining informant who claims: that some people from Junín are afraid to go to shopping in the local town; that both sides do not attend the same mass at the Catholic Church (and the role of the Church in this conflict is a further line of investigation as discussed in 8.4.2 below); and the minority views are not spoken aloud in Junín because of fear of reprisals. As one of the Quito-based pro-mining informants said "*With all this tension that has been created, there are some people from Junín who cannot go into Garcia Moreno, to buy food at the stores cause people will harass them; there's a priest who said that his showing is down, because when a group of the fors go along to church, the againsts stay away; so what that social group ever did, just dug them deeper into a big hole; and, ahh, Junín community is only probably 60% with DECOIN and the rest just keep their mouths shut, cause they can't talk. We had guys who went, went to the log, and start to talk with them an you could see that a couple of people they wanted to say something, but they didn't dare, if you have private meeting with them you might hear a different story.*"[2]

In terms of identity-politics, each claim-maker, be they an NGO or government or private entity, has their own discrete identity, which allows for the description of particular claims which express the values, interests and power of each separately, even where there are shared values and interests in such cases as the mining company and the Ministry of Energy and Mines, or DECOIN and the Asamblea de Unidad Cantonal. It is possible to map where organisations or institutions overlap in terms of their interest, values, and strategic needs and to see the degree of overlap reflected in the alliances that have formed over the period of the conflict.

One way of analysing the claim-makers' different strategies of engagement is to see them as either proactive or reactive, and this categorisation can be applied to different groups over time, as they move between aggressive and passive roles throughout the phases of the conflict in response to the actions of other claim-makers and the need to reposition accordingly.

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[1] *060213 DECOIN JG Barcelona* and from *Field Notes 2005-2006*
[2] *051220 CoC LS Quito*

In this vein the rural anti-mining claim-makers see themselves as defenders, of their land, their livelihoods, their rights, their way of life, their environment and its clean air, water, soil and biodiversity. As one resident of Junín says: "*Estamos defendiendo lo que es de medio ambiente... Es que nosotros luchamos en defensa de nuestra naturaleza es porque necesitamos para sobrevivir* aquí." They have become more proactive, as a defence mechanism and a way of asserting their agency within the existing structure of power relations, taking direct action on several occasions in Intag when first one mining company, Mitsubishi, then another, Ascendant Copper, established an exploratory camp and a field office with medical centre respectively. These different roles - defensive, passive, and on the offensive - where claim-makers explore how a particular claim or action's impacts can benefit their own interests while neutralising or damaging their opponents.

5.3 Claims made within the conflict

Here I present and analyse the claims being made in terms of the respective cases for and against mining activities and biodiversity conservation in Intag categorised within 6 main themes:

5.3.1 Social

The argument against large-scale copper mining in Intag is that the relocation of more than 100 people from at least 3 communities will cause significant and permanent social impacts, as highlighted by the EIA process carried out by JICA for the proposed Junín mine in Intag. The case is made that the extremely damaging effects of enforced relocation are well-recognised, not only because people lose their properties and homes but also their close connections with their neighbours, their community and their way of life as a direct consequence. Often living conditions worsen considerably, particularly economically, and the psychological impacts, although harder to identify, can be just as devastating. DECOIN argues that the actual numbers of families and communities that will be affected will be far greater than the small number cited in the EIS as these were calculated on the basis of the exploitation of a small fraction of the total copper resources that have been identified. In addition to the direct impacts on the families that will have to move, DECOIN argues that the well-being of thousands of *campesino* families whose way of life depends on agriculture and animal husbandry will be greatly affected by the large scale deforestation that will accompany the mining activities which, according to the EIS, will cause a drier climate. The proposed mining activity has already caused divisions within Intag communities; the issue of death threats and physical intimidation of opponents to the mine have also allegedly taken place in the past. Finally it is argued that the operation of the mine will

introduce alcoholism, prostitution and increase the incidence of sexually-transmitted diseases. More arguments are made about the direct health threats associated with mining operations in the penultimate argument against the mine. This information, and the knowledge which has been built up around the data in this Statement, is cited by the anti-mining claim-makers across Intag. These powerful data have been circulated internationally and has been used extensively by Quito-based environmental organisations and DECOIN as the authoritative source of their area-wide capacity building and awareness-raising campaign of the past decade or more. It is clear why it was necessary for the pro-mining side to destroy confidence in the data and their claims.

The argument for Ascendant Copper's mining activities is that the there will be a net gain in social benefits, with the relocated communities being offered land which is more suited to agriculture, in a less mountainous area. In mid-2005, with a change in C.E.O. as well as Community Relations personnel from Ecuadorian ex-military to a Canadian corporate social responsibility consultancy, the mining company signalled a change of approach by introducing a local health facility with a doctor, with an experimental farm to demonstrate alternative agricultural practices, delivering computers and books to local schools and funding road repairs through CODEGAM. The facility was razed to the ground by the anti-mining communities in early December 2005.

5.3.2 Cultural

There are two distinct types of cultural argument used against the mining project. The first is about the impacts on sites of historical cultural value as, according to the EIS carried out by Japanese experts in 1996 and to investigations by an Ecuadorian archaeologist carried out at the instigation of the environmental lawyers ECOLEX in early 2006, the area where the copper is deposited in Junín and its surroundings is also the location of various archaeological sites. Under Ecuadorian law, if proven their presence prohibits any form of development and would cancel the mining concessions. The second is about the cultural identity of the people being profoundly altered as seen in other parts of Ecuador where large-scale development projects such as petroleum extraction has had disastrous effects on the indigenous Amazonian cultures, as identified by several anthropological studies (Collinson 1996).

This line of argument suggests there is a strong cultural identity in the area under threat from the mining activities proposed in Intag which is likened to other more prominent cultures such as Quichua, Shuar, and Huaraoni *etc.* in Ecuadorian Amazonia. Indeed, the President of DECOIN

claims that the cultural identity in Intag is derived from the Imbuya culture[1]. She cites evidence of burial mounds and remains of their houses from thousands of years ago lying within certain properties in Chalguayacu Bajo and Junín. The counter argument denies there is any unique cultural identity to be found in predominantly *mestizo* farming communities in an area which was only colonised in the last half-century. On the pro-mining side, the incumbent national Director of Mining bemoaned the lack of a '*mining culture*'[2] in Ecuador, claiming there is a need to cultivate this in order for mining to become a socially acceptable form of development like in Bolivia, Perú and Colombia with a longer history of large-scale mining. Already there are communities that have apparently embraced mining in Ecuador such as Chaucha, as shown on map in Figure 7 above, where Ascendant has successfully introduced its exploration project, finding that the community has been open to the creation of a mining culture there, as described in its website[3], and also referred to in 5.2.2 above with reference to the women's role in the Intag conflict. The reason for this 'cultural' acceptance is not clear, and makes a clear line of further investigation to understand the dialectical social process leading to this degree of receptiveness, see 8.4.2 below.

With regard to a different definition of culture in terms of the typical character of the Inteños, one of the anti-mining rural claim-makers describes the type of people they are by nature, saying "*Como se puede conocer muy bien aquí en la zona somos, como se puede decir, muy honestos, humildes, y yo creo que si la empresa viene nos va a causar impactos.*"[4] The Editor of De Adentro magazine also describes the people in Intag saying, "*La mayoría de los/las Inteños somos campesinos, agricultores y ganaderos. Esa ha sido nuestra vida y queremos seguirla viviendo en paz. Los Inteños somos ecologistas por naturaleza, porque nacimos en el monte*[5]. He ascribes the character of the people of the zone, their defining cultural identity, to the natural environment wherein they were born and raised whose uniqueness is a central claim in Intag.

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[1] Esta zona ha sido de la cultura Imbuya *051218 DECOIN SQ Apuela*

[2] No hay una conciencia minera en el País. *060221 MEM FA Quito*

[3] Quietly but steadily we have been also working on the Chaucha copper-molybdenum project located in the southern part of Ecuador, comprised of approximately 3,000 hectares (7,400 acres). We already have an approved EIS on Chaucha and find the communities in the area to be very receptive to mining and our work there. *060524 Ascendant letter to shareholders*

[4] As you know well, the people here in the zone are, as you could say, very decent, humble, and I believe that if the company comes that is going to impact on us. *051113 Eco-Junín OC Junín*

[5] The majority of Inteños are farmers and diary producers. This has been our life and we want to continue living in peace. Inteños are ecologists by nature, because we are born in this natural environment. *0507 De Adentro WP Intag*

5.3.3 Environmental

As shown in the previous chapter natural resources are found in abundance in Intag such as clean air and water, fertile soils, a climate well-suited for livestock and agriculture, in addition to which studies have found tremendous biodiversity, although numerous species are under threat, including the spectacled bear, jaguar, puma, monkeys, mountain tapir and Andean toucan (Jatun-Sacha 2005). Today these natural resources are threatened, not just by proposed large-scale open-cast mining activities but also by cumulative degradation caused by the colonising, predominantly *mestizo,* farming communities. Over the last 60 years incoming settlers cleared large areas of primary forest along the Intag valley and hillsides in order to make way for agricultural activities. This process of deforestation is informed by economic development of the rural area and extent of local experience and knowledge of both natural resource management and available alternatives to farming until mineral extraction options became known in the 1990s.

The pro-mining claim that the primary forests of Intag are already being extensively depleted lessens the impact of the conservationist claims of their opposite numbers. Various informants told me of the deforestation problem there in much the same way as the following excerpt from an interviewee in Quito who says "*One of the other things that they keep saying is that DECOIN's job is to protect the forest, well we've done some thematic mapping of deforestation over time and its advancing on both sides of the mountain range that comes down towards Junín and up towards the deposit and its actually advanced well north of the Junín deposit and its coming up on the south. And basically the poor people who live out there they survive on 2 things, agriculture and logging, that's it; and, ahh, you build roads you promote logging, not agriculture, that's just a natural and mining will build roads*"[1]. As the mining company says in a letter to its shareholders "*one of the often stated objections to our operating there is potential degradation of the natural habitat that could result from exploration and any future mining operation. We find this interesting given the rate at which deforestation is currently taking place as the locals seek to augment their incomes and the already-polluted nature of many of the waterways as communities use them for sanitary purposes – as well as drink from the same sources*"[2]. While living in the communities some of the anti-mining leaders told me about ongoing pollution of the water supply from pro-mining members of their families living upstream who contaminate the Junín river with domestic waste water and other household effluent which threatens the health of the main community

[1] *051220 CoC LS Quito*
[2] *060524 Ascendant letter to shareholders*

population downstream[1] and any visitors using the Eco-Junín cabanas alike. With regard to environmental contamination, the pro-mining claim uses an 'ecological modernisation' discourse which downplays the environmental threat with the promise of the application of the latest environmental design solutions and technologies to minimise environmental risk and contamination[2] and allusions are frequently made to the existing environmental degradation caused by agricultural practices in Intag.

The anti-mining argument is that the global status of the cloud forests in Intag where 2 of the 25 most biodiverse regions in the world are to be found, with tens of species of mammals and birds in danger of extinction, makes this an area for nature conservation of worldwide importance. In addition one area in particular – *la Cordillera del Toisán* – is extremely important as the site of primary forest, which performs a number of environmental services; this is where the tree-covered slopes encourage high cloud-cover and rainfall, as a result of which numerous watercourses rise which provide drinking water for many riparian communities in the region. Both the cloud-forests and the sources of potable water are under threat from the mining project and a 'conservationist' discourse of environmentalism is used to argue for their protection. DECOIN's claim is that Intag's environmental media and services, including biodiversity, are under threats identified in global scientific discourses on the causes and likely impacts of global climate change due to combustion of fossil fuels and the destruction of cloud- and rainforests on a global scale, not only in Latin America but also in Asia and areas of Africa. The mining company claims that its concession does not fall within any of the designated forest protection sites and that this has been verified by the Ministry of the Environment[3], apparently boundaries were redrawn after questions in parliament, as the employee of the Ministry's EIA Unit told me when by good fortune I arrived at his office at the very time he was reproducing the map of the concession and the ecological reserve boundaries, and could show me the new map with the changes, "*entonces este es un cambio, las concesiones van a ser mas pequeñas. Van a pedir yo no se cuantas hectáreas*" [4] This illustrates the influence of environmental legislation to protect the national ecological reserves and parks, and the importance of being seen to do so at the national level.

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[1] *Field Notes 2005-2006*

[2] Ascendant Copper is intent on using the latest technology, for example, they are currently examining 7 of 30 options for the tailings dam, including using a duct to take off the tailings to a remote location away from Intag and not high up near the mine. *051009 ACu GR Quito* Notes from an unrecorded interview

[3] *051009 ACu GR Quito* Notes from an unrecorded interview

[4] So this is the change, the concessions are going to be made smaller. They are going to lose I don't know how many hectares. *060210 MEA EIA JD y JA Quito*

5.3.4 Collective rights and mining law

In this area of the anti-mining side's case against the mining company, a human rights discourse emerges, though not formulated in terms of 'environmental justice environmentalism' (Wenz 1988). It is argued that one of the most important aspects, but one most often ignored in discussions of the impacts of large scale mining and petroleum projects, is the impacts on the collective rights of individuals and local governments. In Intag and Cotacachi the anti-mining argument is that there is a long list of communities, peoples and local government whose rights have been disregarded and abused by the political and economic power of the large transnational companies which is endorsed unconditionally by each allegedly corrupt government in turn. These rights include the following:

a. Under Section 88 of the Constitution, there is a requirement for prior consultation with communities before any project is developed which has environmental impacts. Thus all mining activities that take place without a public consultation process constitute a violation of the Constitution. DECOIN claims that it is the responsibility of the government, not the mining company, to carry out this consultation, which must include comprehensive information pertaining to all aspects of mining activities, and according to their criteria no legitimate consultation had been carried out in Intag until the end of my fieldwork. However by the middle of 2006 the MEM had been satisfied that it had and set this out in a letter in English to DECOIN which states "... *since the end of March of 2006, to the 30 of April of 2006, the company Ascendant Copper had open two different Public Information Centers and Diffusion of the Terms of Reference, in the parish Garcia Moreno. The first one worked in the premises of the parochial house of Garcia Moreno's Priest during 10 days, since, according to version of the First Sergeant of Police Angel Usuay, the priest of the place "forced by the threats of the ecologists, he requested to company ASCENDANT the return of the premises". The second office operated in another house of the same parish, until the 30 of April of 2006*"[1]. This claim and clamour for consultation was clearly wanted by the anti-mining side from the start of the conflict when they saw this as a way to reject the mining development. However, latterly, when they realised that consultation on the basis of the publication and dissemination of the EIS was a legal prerequisite for the MEM EIA Unit to pass the mining concession on environmental grounds, the anti-mining side took steps to make sure that consultation was made impossible within the local communities. They did this using the road blocks and clearly tried to stop Ascendant from using the Catholic priest's house in the town of Garcia Moreno, if the allegations of the police officer are to be believed.

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[1] *060614 MEM Response to DECOIN* letter from Sub-Secretary of Environmental Protection

A further claim of DECON is that Section 86 of the Constitution recognises the rights of Ecuadorians to live in an ecologically-balanced uncontaminated environment where environmental preservation, ecosystem and biodiversity conservation are all declared as in the public interest. These same rights are endorsed in the Environmental Management Act, Articles 1, 3, 7, and 18 which raise important questions about the degree of compatibility of environmental rights in relation to developmental and other basic rights and imperatives which I highlight here as another line for further investigation beyond this PhD project, see 8.4.2 below;

b. The anti-mining side claims that Article 11a) of the 1991 Mining Act requires permission *inter alia* from the Mayor for mining activities in areas with existing settlements[1]. Up until the end of my fieldwork in March 2006 Mayoral authorisation had not been formally requested by MEM. Indeed MEM wrote to DECOIN citing this Article and its interpretation, and arguing that as the submission of an EIS does not comprise the execution of mining activities, then *"...what you are soliciting does not have any legal applications, since the accomplishment of Terms of Reference or an Environmental Study does not entail the execution of mining activities. After only presented, reviewed and approved the environmental studies, for any of the mining phases, the mining holder can execute mining activities; the maximum moment is that at which a mining holder must ask for the report of the Mayor, whenever their mining activities must be made within a city or populated center."*[2] Ascendant claims that all meetings between the Mayor and Ascendant Copper requested by the company had all been refused, except if held in public in front of all the stakeholders which Ascendant refused, preferring a private meeting to convince the Mayor of the advantages of letting mining come to Intag, and it was made clear in the open letters of the current Mayor concerning this case that his authorisation would never be given.

DECOIN claims that an approved Environmental Impact Statement is required under Articles 10 - 18 of the 1997 Environmental Regulation for Mining Activities[3] to carry out any minerals exploration. Under Articles 97-100 of the 1991 Mining Act[4], mining concessions only cede rights

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[1] *Art. 11.- Informes. Para ejecutar las actividades mineras a las que se refiere esta Ley en los lugares que a continuación se determinan, se requiere informes otorgados por las siguientes autoridades e instituciones, según los casos: a) Del Alcalde o Presidente del Concejo Municipal, dentro de una ciudad o centro poblado; Source: CONGRESO.NACIONAL (1991). Ley de Minería. Registro Oficial Suplemento 695.*

[2] *060614 MEM Response to DECOIN* letter from Sub-Secretary of Environmental Protection

[3] See Appendices for full text of these 8 articles under *CAPITULO III: ESTUDIOS AMBIENTALES Arts. 10-18 Source: Alarcon-Rivera, F. (1997). Reglamento Ambiental de Actividades Mineras, PRESIDENTE CONSTITUCIONAL INTERINO DE LA REPUBLICA.* ***Decreto Ejecutivo 625.***

[4] See Appendices for full text under *TITULO VI: DE LAS RELACIONES DE LOS TITULARES DE DERECHOS MINEROS ENTRE SI Y CON LOS PROPIETARIOS DEL SUELO*
Source: CONGRESO.NACIONAL (1991). Ley de Minería. Registro Oficial Suplemento 695.

to the mining company to the subterranean mineral resources, but not rights to ownership of private properties, or to entry to private properties without the express consent of the owners, and need to make prior arrangements between these parties before entering their properties. In such a case that it is not possible to reach an agreement between the landowners and the mining companies over the price to be paid for the use or purchase of their estates then Art. 196 of the 1991 Mining Act provides that the mining companies can become 'servitudes' of the private land for the duration of the project or mining activities. The National Director of Mining determines the level of compensation due for the use of the land, and all rights to appeal this decision in the Civil Courts are removed. This is considered by some lawyers in Ecuador, ECOLEX included, to be a violation of constitutional rights regarding private property[1].

The anti-mining lobby cites a number of alleged instances of the abuse of power and legal violations 2003-2005 in the Intag area and Cotacachi related to the Canadian mining company and the government of Lucio Gutiérrez. These are as follows: a. Violation of Article 88 of the Constitution of Ecuador by not consulting the communities potentially affected by the mining project; b. Violation of the right of the peoples to live in an environment free from all contamination (Article 86 of Constitution of Ecuador); c. Issue of mining concessions in populated areas by the Ministry of Energy and Mines without the knowledge or authorisation of the Municipality of Cotacachi, local councils or communities; d. Intention to interpose a so-called 'development' plan written by the mining company without consideration of existing local and Cantonal development plans; e. Public making of false accusations by a senior employee of the mining company against both the Mayor and community leaders opposed to the mine; Ascendant Exploration has made defamatory statements about the Intag newspaper and various activists opposed to the mining project. Canada-based objectors also write "*as to the role of Canada, it is clear that legislation is urgently needed to make sure that our companies do not run roughshod over community rights. The Intag scenario is not unique. Our mining companies are involved in nasty conflicts with local communities all over Latin America and elsewhere, with untold damage to Canada's reputation as defender of decency and social justice in international relations.*"[2]

In its defence, the pro-mining side argues that its actions and concessions are obtained according to the relevant provisions of Ecuadorian law, winning the action taken against them by the

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[1] *060222 ECOLEX SR Quito*

[2] *0608 Canadian miners vs. Ecuadorean farmers and environmentalists*

municipality[1]. Ascendant cites the outcome of the Tribunal in their favour[2]. On another occasion the Sub-Secretary of State with responsibility for mining argued that, despite recent changes in the law which now require full consultation of communities, this concession was awarded prior to those changes and so it is legality is verified by the action's outcome[3]. In early 2007, in an attempt to calm the situation in Intag, the mining company reports on its website they *"... met with members of government, including the provincial Governor, representatives of the Ministry of Energy and Mines and of the Ministry of Government and Police of Ecuador, and with representatives of an ecological group opposing mining activities in the region. All three groups – the government, Ascendant and the ecological group – expressed an interest in restoring law and order to the region, reducing tensions, and respecting the rights of all involved"*[4].

5.3.5 Health

The anti-mining case argues that mining operations can generate incalculable quantities of toxic substances during the extraction and processing of the minerals. One of these, cyanide, is so toxic that in its purest form a quantity equivalent to a grain of rice when ingested is enough to kill an adult human. Cyanide used in the process of separation of gold from other mineral ores in a recently operational gold mine *El Corazon* close to Intag, and still in the Parish of García Moreno, is present in the waste waters from this mining operation, allegedly causing disease. The copper found in Junín is laid down with toxic heavy metals such as lead, arsenic, chrome and cadmium which become the waste products of the copper extraction process. If ingested these enter the body tissue with severe health consequences, particularly for children and pregnant women. The majority of these toxic waste products are stored in vast siltation ponds covering hundreds of hectares of land. DECOIN claims that there is always the risk of these ponds discharging their contents, whether due to earth tremors or earthquakes or the annual torrential rainfall when the ponds could overflow, releasing their toxic waters with potentially fatal consequences downstream. The copper deposits in Junín also contain sulphur which as sulphuric acid in the local watercourses is fatal for all aquatic organisms. Acidic waters draw out any heavy metals

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[1] A complaint of anti-mining groups is that permission was granted by MEM without local consultation and therefore its legitimacy is questioned by local people against the mine, though the mining company has gone to the High Court to obtain a ruling of legitimacy of the permission. *Field Notes 2005-2006*

[2] Ascendant Copper is working within the law, obtaining rulings at the highest level in the land i.e. the Tribunal. The site does not fall within any of the designated forest protection sites; this has been verified by the Ministry of the Environment. *051009 ACu GR Quito* Notes from an unrecorded interview

[3] Meeting at MEM for invited participants 051218 to which I was unofficially invited by an anti-mining invitee. *Field Notes 2005-2006*

[4] *070707 Ascendant Junín Mineral Property Overview* Agreement with Government of Ecuador and Ecological Group

they come into contact with, a process which cannot be reversed once started. Other health risks come from the waste produced from the use of large quantities of explosive used in the process of open-cast mining and mineral extraction. In addition to the potential significant environmental and human health hazards associated with the mineral extraction and preliminary processing, there are additional risks that come with the final copper smelting process which generates substances just as or even more toxic than those previously described. The anti-mining lobby refers to the copper smelter in Ilό, Peru where the local inhabitants have allegedly suffered serious health problems, especially respiratory, arising from the source of atmospheric contamination at the smelting plant. Clearly all these potential hazards to human health are of a major concern to Intag's local communities and Municipality.

Pro-mining informants claim that on a local level, the health of Intag's local population is already at risk from the effects of insecticides and pesticides used in the communities' modern agricultural practices *e.g. naranjilla* production[1], which lead to the contamination of all environmental media but especially water, soil and all their dependent organisms[2]. Again, the pro-mining case is that the environmental technologies and a duty of care in line with Canadian operational environmental and health standards will be applied so that the health of the local population and its environment will be ensured. The then Managing Director of Ascendant Copper insisted that the company is evaluating more than 100 environmental options, including siting the tailings ponds at a distance from the mine, using pipes to transport the waste-waters to a flatter area which is more suitable in engineering and risk minimisation terms[3]. They argue that the chemical by-products and wastes from copper extraction are far less damaging than those of copper production, and also claim that the activities would be limited to extraction as it would be economically inefficient to site a copper smelting plant in Intag due to the inaccessibility of the area. Additionally this side argues that with current infant mortality running at 80% (a figure contested by the anti-mining side) in Intag, the company's provision of basic medical care in the local area will serve to reduce this figure and generally improve the health and well-being of the local population through the creation of this facility and the improved economic well-being of families in the area[4].

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[1] Claim to have already found traces of Mercury in the water, which may derive from the use of pesticides for the production of naranjilla. This was not picked up before by the JICA so-called EIS, which has since been discredited as an EIS by the Tribunal *051009 ACu GR Quito* Notes from an unrecorded interview

[2] *0512 PJ Quito*

[3] *051009 ACu GR Quito* Notes from an unrecorded interview

[4] *070707 Ascendant Challenges and Opportunities*

5.3.6 Economic

The anti-mining side claims that the mining company never tires of spreading rumours about the economic and employment benefits of the mine, however mining activities are not labour-intensive (globally mining employs 0.5% of the workforce, representing 0.9% of world GDP) and the majority of those employed are drawn from outside the locality. They criticise the 1991 Mining Act for being written in favour of mining operations by previous President Noboa's government and for representing an unprecedented economic disaster on the national level. They claim that this provides numerous economic incentives for the mining companies at the expense of Ecuador's GNP; there are no environmental guarantees to close mines that are causing severe damage to the environment; mining companies are given guarantees that allow them to seize private land in order to carry out their activities. They claim that multinational companies, since this legislation was introduced by Noboa, need not pay any compensation to the state in recognition of their exploitation of resources that rightfully belong to Ecuadorians; and also claim that any paltry sums that are paid by the mining companies go straight to the Ministry of Energy and Mines for disposal at their discretion and only in the rare case of a surplus would the local Municipality be a beneficiary. This is despite the fact that it is the Municipality and its local communities that have to face up to all the local direct and indirect impacts and until that point in time (2005) there was no redirection of funds from the Ministry to the local Municipality to manage the socio-environmental conflict that has been running for more than a decade before the mining prospecting has even begun, nonetheless any extraction.

The pro-mining side contests this last point, arguing that Ecuadorian law stipulates that the mining company must give a percentage of its declared taxable profits to the local Municipality to be spent entirely at the County's discretion[1]. The company claims that it will in addition spend money locally on the provision of new communications and transportation infrastructure, as well as health and education provision to local communities. Ascendant Copper intends to provide training to local people so that they are qualified to work in the exploration and eventual exploitation phases; in 2005 offering 4 university scholarships to local people, allegedly an offer which the Mayor of Cotacachi flatly refused to consider[2].

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[1] 4-5 years of exploration, then 30 years of extraction, the annual expected profits expected to be $100 million of which 25% is directed by the company to the local area, to the local municipality by law. *060301 ACu JCB Quito* Notes from requested unrecorded interview with then General Manager

[2] *051009 ACu GR Quito* Notes from unrecorded interview with then General Manager

In a letter to its stakeholders the company makes the following statement which justifies its interest in pursuing mining in Ecuador on economic grounds which they claim will turn the country's economy around in the same way as has happened in Chile and Perú. I quote this section in full: "*We have, as a Company, made the strategic decision to focus our energies in Ecuador. We believe the country as a whole is vastly under-explored for minerals. In addition, there is little doubt that Ecuador has turned the corner towards becoming a full-fledged member of the mining community. In 2000, the country adopted the U.S. dollar as its base currency, put all mining concessions (which were under the auspices of the military) under a new Ministry of Energy and Mines, and published what we believe to be one of the best Mining Laws in the world. It is interesting to compare the economic statistics of the other Andean countries, particularly Peru and Chile, which are located in a similar geological area as is Ecuador. Both of these countries made the decision years ago to support mineral exploration and development and their economies reflect this. In 2005, these countries reported Gross Domestic Product ("GDP") of US$170 -180 billion each as compared to Ecuador's GDP of US$55 billion. In Chile and Peru, mining contributed, as a percentage of GDP, 7% and 8%, respectively. In Ecuador, mining was essentially zero. As a percent of exports, mining contributed 40% to Peru's exports and 47% to Chile's, while, again, Ecuador's contribution was zero. It is because of this that Ecuador's government will continue with its mining reforms and support us and other mining companies in the country.*"[1] This is the pro-mining side's main national interest in this form of development.

5.3.7 Development

Per se, this is not a term which the anti-mining groups use as frequently as the pro-mining side. The AUC is articulating visions of the future development of the Cantón in spatial terms and initiatives like the shade-grown Intag coffee enterprise and eco-tourism are forms of land-use development. In the context of the sales of land titles that had been going on in late 2005 the Chair of the AUC Environmental Committee who is also DECOIN's president told me of their own definition of development which differs from others based on monetary gain alone, she claims that "*...es un poco el pensamiento de la gente... es el pensamiento de la gente... de decir para ustedes el desarrollo es la cantidad de recursos económicos que la empresa les han pagado por su tierras para nosotros tenemos otra visión diferente de lo que es el desarrollo.*"[2]

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[1] *060524 Ascendant letter to shareholders*

[2] It's a little like the way of thinking of people, the way of thinking of people, who say that development is in terms of the amount of money the company has paid out for their land, but we have another, different vision of what development is *051218 DECOIN SQ Apuela*

She went on to describe the form of development as consisting only of infrastructure such as surfaced roads, buildings, and cars which she claims most Inteños don't want. Apparently the people want to know they can have what they want to eat readily available and without being dependent on other areas to provide that food. They want to be able to rely on guaranteed supplies of foodstuffs and to ensure that they can maintain their caretaking role over the land there so that future generations can have the same opportunity. She concludes that their vision is really quite a different one from that of the pro-mining side[1]. Later on she also links this set of claims about to the form of development that Inteños are against to precisely that wanted by northern governments with their models of globalisation and neoliberalism[2].The Frenchman, as he is known, to distinguish him from the other 'gringos', who coordinates micro-economic development projects for Spanish and Catalan NGOs in Los Manduriacos, is very clear that mining derives from a certain capitalist economic model, but that it is not in his view classifiable as development as, on close analysis, he claims it brings far more negative than positive with it, as he says "...la minería no es desarrollo, no es desarrollo, digamos para un cierto modelo de economía muy capitalista, pero si es que se hace un análisis profundo, aporta muchas mas cosas negativas que positivas."[3] At the international level, Canada-based campaigners report the antipathy of the local communities to mining in favour of sustainable development.[4]

On the pro-mining side organisations like CODEGAM – the first organisation set up for the *development* of Garcia Moreno - and Ascendant Copper employ development arguments far more frequently, though their definitions of development are mainly concerning copper extraction, but also physical forms of development such as improved transport infrastructure, and new health and education facilities which are all being offered under the company's Social Programme.

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[1] Este tipo de desarrollo que tienen calles en cementadas, edificios, carros yo creo que muchos de los inteños no queremos ese tipo de desarrollo por eso estamos opuestos a esa actividad primero por que no va haber el tipo de desarrollo que mencione antes sino que lo nosotros queremos que la gente tenga que comer que tenga una soberanía alimentaría que podamos decir que vamos a comer mañana pasado que no tengamos que ser dependientes de otros espacios de otros lugares primero que garanticemos nuestra alimentación que garanticemos el desarrollo de otras generaciones que tengan la oportunidad que nosotros hemos tenido en usufructuar la tierra entonces realmente yo pienso que la gente por que tiene una visión diferente realmente *051218 DECOIN SQ Apuela*

[2] Este tipo de desarrollo que quieren los gobiernos del norte no cierto de este modelo de globalización que hablan de lo modelo neoliberal *051218 DECOIN SQ Apuela*

[3] *060220 Talleres DL Magdalena Bajo*

[4] Local community activists and leaders of producers' organizations argue that the sustainable development of their valley lies in the expansion of the activities in which they are already engaged.
0608_Canadian miners vs. Ecuadorean farmers and environmentalists
Source: http://www.ascendantalert.ca/Files/Foe%202006%20Intag-Ascendant%20vs.%20farmers%20%20V3%20FINAL.doc

5.4 Synthesis of Claims in relation to discourse, power and knowledge

The social, environmental, and health claims draw on information from international and national sources which are available to the local environmental NGO and municipality who have used this knowledge to construct their anti-mining discourses around themes *inter alia* of social division, loss of social capital, the end to an agrarian way of life, destruction of biodiversity, pollution, contamination of local water sources, and disease. Narratives are built from accounts of other communities in Latin America which have experienced mining activities and have perhaps been relocated as a result. These, together with local women's direct experience of mining projects that they have been taken to see in Perú, have been highly effective mechanisms in convincing certain people to oppose mining and made some determined to contest this at any cost. Equally those women who were taken to see the mining project in the south of Ecuador have been convinced from this experience of the social and economic benefits of mining in the community they visited. This illustrates the social process of claim-making using information and gendered experience to form knowledge that pro- and anti-mining discourses are constructed from and the power they contain to convince and mobilise to transform the highly unequal power relationships within this politicised environment.

The anti-mining members of Intag communities and local organisations which have been set up in direct response to the interest of mining companies in the area use claims built around discourses of collective rights and national legislation which they argue have not been considered. Their knowledge of the law and of their rights was first provided by national environmental campaign organisations with experience of supporting Amazonian communities in the oil extraction zones. International environmental campaign organisation country offices are also providing information to the local anti-mining organisations while at the same time informing the international public about allegations of environmental and basic human rights abuses by the transnational company which is listed on that country's stock exchange. This discourse is used to weaken the economic viability of the company and to generate political opposition and pressure on the company from the foreign government's representatives in Ecuador to comply with legislative norms for operational practices in the Intag zone in the same way that they would be expected to if working in that other country. This is one instance of the multiscalar use of information to create knowledge, to constitute discourses and through their use to effect power. In political ecology terms this means the intended consequence is to increase the ability of the anti-mining claimants to control the interaction of the pro-mining claimants within their environment in Intag.

The State Ministry responsible for awarding concessions for mining exploration and extraction has been one target of the anti-mining claims within the campaign. Here the legal claims of the anti-mining side's discourses identify the Ecuadorian government's responsibility for the national mining law and its recent amendments, and condemn the failure in their duty to comply with cited articles of the constitution with regard to consultation of local people and elected representatives. The power vested within government is recognised in these discourses of duty and obligation of the State to the people. Invited supra-national intervention by international organisations I think demonstrates the frustration of perceived powerlessness at the local level to challenge the ability of the State to determine local economic development in Intag and choice whether to recognise or overrule local people's rights in the national interest.

The claims and counter-claims that are used dialectically are constituted from the 'moments' of the social process of claim-making as formed from information communicated by those parties wishing to construct an argument either for or against mining. The data used as the source of new information are regularly taken from available sources at all levels from local to international and used to create a knowledge base and beliefs and inform the development of discourses used by claimants and to changes in their material and social practices. New institutions emerge to serve the political functions of the articulation and actualisation of the discourses and their objectives and evolve and dissolve accordingly. At the start of the conflict new knowledge from the environmental awareness raising campaign of Intag's newly formed local environmental organisation, run with the support of the leading national environmental activist organisation, was used to educate the local farming communities some of whom took on these new discourses of biodiversity conservation as they were introduced and started new initiatives. The Cantón's Environmental Committee has since supplemented this campaign with a universal environmental education programme component targeted primarily at those in the first five years of required formal education. There is now a body of rural people who have adopted this way of thinking, who employ this evolving set of discourses and narratives constructed from the information disseminated, and who are actively convinced that mining will entail an environmental, social and economic disaster for their communities in Intag. This empowers them as individuals to make changes to their social and material practices, and to take direct action on occasion to drive home their political will for local self-determination of a mining-free future.

The mining company feels that their own initial awareness-raising campaign spread too far geographically and promised too much, although this was in an effort to match the geographic

spread of the anti-mining campaign which delivered environmental workshops not only in the 4 communities likely to be affected directly by mining but also right across the Intag zone. On the pro-mining side, every claim-maker talks about the lies and misinformation that the anti-mining side has spread about the impacts that mining will have. The mining company's second management line-up sees the need to counter this with an information campaign of their own which will correct the allegedly erroneous half-truths which form the basis of anti-mining discourses. The company also wants to correct the over-exaggerated promises of the economic and social benefits of mining that were spread by their previous community relations manager with apparently limited knowledge of the first management team. The company rhetoric therefore is about telling the truth and giving a realistic impression of the tangible benefits that can accrue to the area's population as part of their proposed Social Programme which is drawn up on the basis of the company being an exploration concern, not an extraction company.

This last point is important. It became evident to me in the field, and in analysing the claims, that the two sides increasingly are discussing two different scale projects. The anti-mining claims centre on a large-scale open cast copper mine, for which a foreign development assistance agency carried out an EIA. The information from the corresponding Study informed the entire initial anti-mining campaign and the evolution of their multi-sectoral discourses. The current mining company obtained a high court ruling which discredits the status of this EIS and its relevance to their work. This company went through the EIA process, despite effective obstruction from the local communities which delayed proceedings considerably through non-cooperation measures. However the scope of the EIS is limited to the extent of proposed mining activities which are described by the company as explorative as this is the limit of their interest and competence. This shift in the scope of mining activities subject to the scrutiny of the State Ministry with responsibility for evaluating an EIS and the required EIA process, prior to awarding environmental permissions and the mining concession, means that the type and magnitude of likely significant environmental and social impacts is greatly reduced. This enables the company and its supporters to dismiss the anti-mining claims as gross exaggerations of the truth and so diminish their validity and potential power. They also claim that only 1% of exploration companies successfully identify an economically viable mineralised resource for extraction and so downplay the likelihood of mining operations. This makes the anti-mining claims of certain disaster seem over-confident and misplaced which further undermines their potential to influence the outcome of the conflict in their favour. As I left the field, the environmental organisations claims had remained unresponsive to this reduced delimitation of the nature and scope of proposed mining activities.

5.5 Conclusion

In answer to my research questions I can conclude from this chapter's discussions and analysis that:

- Claim-makers are drawn from multiple levels and locations from the local to the international.
- Claim-makers group around two central and opposing identities as miners or ecologists but are far from homogeneous or single-interest, or equally involved in actively leading the process.
- Claim-makers cover a range of categories from NGOs, transnational organisations, local and national governments, consultancies, and rural communities, all heterogeneous and representing a unique set of interests, beliefs, and values.
- The grassroots groups in the conflict have been able to advance their environmental and development claims using local organisations DECOIN and CODEGAM to represent their interests. Where there has been dissention and individuals have no longer felt represented accurately they have been able to withdraw and to continue to articulate their own views within the political spaces *e.g.* AUC and its sectoral committees and other public meetings. This has not had a damaging effect on the claims made by either side because as the conflict escalated and CODEGAM and DECOIN became known to be associated with direct action, even violent acts and intimidation, the State MEM and other parties were reluctant to include them in discussions. Instead the 'independent' individuals who had distanced themselves while retaining their positions were invited to closed meetings with the Minister and the company where local anti-mining and pro-mining claims were heard in equal measure.
- The extent to which each claim-maker is able to advance their own environmental and development knowledges and values is questionable as the evidence suggests that in the rural communities the pro-mining groups are continuing to articulate a modernising agenda, and the anti-mining groups express an environmental management and biodiversity conservation discourse increasingly integrated with a rights discourse which prompted direct action. The modernising discourse is synonymous with the colonist legacy in Intag but the ecological discourse is recent and introduced by the conflict. This begs the question of whether the use of imported discourses has done a disservice to the rural populations and whether their own formulations of their environmental values, knowledge and use of the nature around them when expressed as claims would have included more local people than are currently involved in the claim-making process and therefore had greater political impact on the national government of the day.

- Highly unequal power relationships are expressed by the anti-mining and pro-mining interests in the claim-making process although are countered by the multiscalar discourse alliances. The sense of this inequality is felt deeply by the rural anti-mining claimants to the extent that out of feelings of frustration at the actions of the mining company using its purchasing power and at the lack of response of the State to their long-made claims for recognition they took direct action as the only way to convey their message to the company and their government, while at the same time creating powerful publicity for the anti-mining campaign for consumption at the national and international level by their allies and supporters to put pressure on the shareholders in the company and on the Canadian government to act responsibly.
- The rural pro-mining claim-makers , especially those in CODEGAM are more savvy politicians already and under their leadership there has not been the space for the development of new leaders from the grassroots in the same way as within the anti-mining groups where previously apolitical people have formed new organisations *e.g.* the Council for the Communities which is being lead by a local resident of Chalguayacu Bajo who has become a prominent, if not notorious, activist leader – demonised by the pro-mining and traditional political elites even in Cotacachi town as highly dangerous – who regularly represents his constituents' interests at the local and national level in media interviews, political protests, and official meetings.
- Information, coupled with direct experience of existing mining projects, has convinced invited women's groups from Intag of either the disastrous or beneficial effects of mining in Intag. Women were selected because they are perceived by both sides as more influential once convinced of the facts about mining they are presented with, not because they will benefit more than men as women rarely are offered comparable employment in the mining sector and stand to lose their livelihoods if their land is taken away through community resettlement.
- Claims in the conflict centre on social, cultural, economic, social, health, development, collective rights, and mining law themes and are contested by counter-claims in a continuous process of the elaboration of the most powerful expression of interests.
- Outstanding characteristics of the rural claim-makers include their well-rooted convictions and polarised positions in the conflict, with the determination of some anti-mining claimants to fight for their interests to the very end.

Chapter 6 Analysing the Claim-making Process & Discourses

6.1 Introduction

The purpose of this second analytical Chapter is to provide: an analysis of the claim-making process including the relationships within the claim-making process, the discourse alliances, and the local decision-making framework; an analysis of strategies for the engagement of claim-makers in the claim-making process; an analysis of the development and environmental discourses being used by the claim-makers including how selected claim-makers employ specific discourses within this struggle; concluding with a discussion of the function of discourses when used as claims in terms of power and knowledge and how the agency of claim-makers and the structure within which the claim-making process operates is constantly negotiated and redefined.

6.2 Analysis of the claim-making process

In this section I consider the main interests of the claim-makers and their networks, alliances and groupings, also addressing the degree to which these relations are influenced or determined by dynamic power relations, how these affect the knowledge and discourses employed, and how this brings into effect new balances of power and affects the progress of the claim-making process.

6.2.1 Spatial Aspects of the claim-making process

This research centres on the claimants but I give recognition to those in Intag and the Cantón who would be classified as 'non-claimants'. As far as the conflict is concerned the movements and organisations that have been spawned only encompass a minority of the resident population. I would estimate that the number of daily politically-active claim-makers in Intag in total must only run in tens and not thousands. Outside this core, there will be numbers of others who are on the fringes, attending the 500-strong annual Assembly of the AUC for instance, or participating in other political spaces *e.g.* meetings of the Parish Council and Municipality. These second circle claim-makers are sometimes driven in quite literally in transport hired by event organisers to facilitate a larger gathering which can be hard to organise in a rural area with, in my experience, haphazard, seasonally-affected, public buses which are also relatively costly and the nearest stop to some communities up to a 4 hour hike away. There are subsequent circles of people, greater in number but lesser in commitment and activity around the contestation of the copper mine and biodiversity conservation. In the Andean zone Cotacachi town's residents and the Quechua communities around are less active than Intag's mestizo communities, but even there many people chose to stay out of the conflict, some out of fear, and others from resignation that the

mine is a forgone conclusion of the State. In the zone, there is a 'non-claimant' sentiment[1] that both sides of the conflict are trouble-makers and creating problems for Intag.

6.2.2 Relationships within the claim-making process

An initial step is mapping the claim-makers within a relationship model, which allows visual analysis of varying degrees of interconnectedness between the different claim-makers and shows the extent of linkages that are publicly admitted and known between the anti-mining and pro-mining camps, for instance. In Figure 14 below I used an earlier version of the CAQDAS software NVivo2's non-interactive modeller. This shows in green the claim-makers self-identifying as anti-mining and in yellow those who are pro-mining with the exception of 2 linking characters that I subsequently discovered were oriented against the mining activities. At the same time this serves as a diagnostic device to examine key informants' connections and to construct the social structure of the conflict and its agents.

Figure 14 Snapshot of Claim-maker Relationship Model in NVivo2 built at mid-point of fieldwork

[1] *Field Notes 2005-2006* Conversations in Intag's local buses with fellow passengers, in cabs of timber-carrying trucks with drivers and other hitchers, in shops and hostels in Apuela and Garcia Moreno.

The nature of the relationships simply represented in the model by single black lines in reality transpire to represent a highly complex and dynamic web of power relations, knowledge exchange and control, and discourse alliances. The political ecology literature suggests that relationships of power and control between humans, or groups of actors, are played out in their relationship with their environment. In this case it is clear that the *campesinos* are not powerless but on each side of the conflict are wielding power, and exercising their rights to determine forms of future development and the nature and extent of environmental changes. Institution-building means that power is centralised in the organisations created to serve the negotiation of the outcome of this conflict such as local NGOs CODEGAM and DECOIN, also the AUC, Intag newspaper, Community Council, and Eco-Junín, in addition to which there are existing State Ministries of Environment, and of Energy and Mines, the local Municipality, the Parish Council of García Moreno, the private companies Ascendant Copper, Syr Consulting, Terrambiente, international environmental NGOs, The Sloth Club and Rainforest Concern, and various international tertiary educational establishments. Around these organisations various key informants are grouped and it is evident that some are connected to more than one of the conflict's core organisations, thereby concentrating the power of certain individuals on all sides.

The President of DECOIN and the President of the Environmental Management Committee of the AUC is the same woman. The same man is the previous owner of the mining concession rights, the Chair of the Mining Committee of the Canadian-Ecuadorian Chamber of Commerce and closely associated with Syr Consulting which carried out the initial Social and Environmental Impact Assessment for the Junín concession for Ascendant Copper. The former was always deeply suspicious of me, evasive, and only reluctantly gave me a short interview towards the end of my fieldwork, the latter was far more open, though asked for sections of the interview not to be recorded and the information given to be off the record, but acted as a gate-keeper to meeting key informants in the pro-mining group, including international consultants acting for the company and its new CEO. This difference in behaviour was perhaps in its most extreme form in relation to these 2 informants but by no means atypical, and could derive from the relative positions of power that the anti- and pro-mining informants felt both within the conflict in general and particularly in relation to a foreign researcher. As suggested by various authors (Scheyvens and Storey 2003) who themselves have been foreign doctoral researchers in developing countries, this power imbalance is an issue to contend with at all times, and I think especially so when working in a conflict situation of this nature.

Therefore the relative reticence of the more influential Ecuadorian anti-mining claim-makers, such as the Mayor and the President of DECOIN, and the information they were prepared either to give to and withhold from a unfunded foreign researcher, contrasted with their openness with representatives of funding organisation representatives and also with the openness and trust of their rural neighbours. This is an important reflection of the power dynamic we were working within, just as much as the relative generosity of the non-Ecuadorian pro-mining claim-makers with their time and non-commercial information-sharing, in contrast to certain non-Ecuadorian anti-mining informants who cancelled meetings repeatedly, especially after they had had meetings with other anti-mining groups, and withheld or gave misleading information. This was part of the anti-mining strategy of power through the control of information when there was distrust and no perceived material gain to be had from sharing data with a researcher. A Quito-based NGO had run a workshop a few months before to slam foreign researchers who take data out of Intag and put nothing material back in[1].

The representation of certain groups by a particular organisation is a theme in the data. It appears that the anti-mining groups in the rural communities have consented to their representation by DECOIN in this conflict, many considering themselves to be members of the organisation, even thought it is not a membership organisation. They see themselves as closely allied with this environmental NGO and regard all its activities as taking place on their behalf. The most active local residents take up executive positions within DECOIN, while the overall control is managed by an expatriate whose management style fellow non-Ecuadorian female anti-mining informants criticise as paternalistic and misogynistic, and have distanced themselves from DECOIN as a consequence while still working against mining in their own way. This illustrates the internal power dynamic and struggles ongoing within the anti-mining side. I was initially interested in the inclusion of local forms of environmental knowledge in the values, discourses and interests of mediating parties who represent the marginalised and disempowered *campesinos* and how this affected their representation and sense of struggle for environmental justice and against injustice. Certainly the involvement of emerging leaders from the rural communities against mining in representing the struggle has strengthened the sense that the people themselves are mobilising and taking action, and they feel an ownership of their claims. However there is little evidence of local pre-mining conflict environmental knowledge and values being used to articulate claims, little expression of enacting a struggle for environmental justice, nor is this criticised by claimants.

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[1] *070120 Intag Periodico MEF Otavalo*

6.2.3 Alliances and Discourse Coalitions

The analysis of the data here considers the existence of discourse alliances, their composition and form, and outcomes. I contend that discourse coalitions are deliberately and consciously created within Intag's conflict for the express purpose of garnering power and exerting maximum influence from concerted efforts. The extent of commonality between alliance members beyond a cohesive discourse varies; the most significant dimension is their shared political interests. However other synergies are created through these discursive alliances *e.g.* emergent forms of social capital, and new working arrangements between communities that had been remote and relatively disconnected, as referred to below in Chapter 7.

These working relationships have been formed through devices such as the informal weekly meeting of all the activists each Sunday morning at the office of the environmental organisation, DECOIN, in the town of Apuela. Here claim-makers assemble to exchange information on the latest incursions into the Community Reserve, or land sales, and on more than one occasion when I was hanging out in the office I also saw the Executive Director performing the role of dispute resolution between claim-makers in some community's *e.g.* over who has responsibility and use of the mobile phone given to that community solely to communicate with DECOIN in relation to the conflict. These regular gatherings and the relationships that have developed over the past decade or more are one of the more positive aspects for the local civil society of what is otherwise quite a socially-devastating conflict. Another aspect is the creation of pro- and anti-mining international alliances that may not otherwise have formed and represent a type of social capital between North and South. The multiscalar nature of these competing discourse alliances has implications for the input of different forms of environmental and development information and ideologies which create local forms of knowledge and power dynamics, and importantly here because of the agency expressed and created in the alliance creation, the structure and agency dialectics.

This conflict created new networks, alliances, and organisations, and strengthened those already existing. These are networks of knowledge exchange *e.g.* through capacity-building workshops run by DECOIN in conjunction with Acción Ecológica since 1997; alliances between powerful actors in favour of mining *e.g.* international lending institutions, the State, transnational exploration company and its investors, and local politicians; and between less powerful local and international environmental and development organisations who are the actors against mining.

New organisations have formed around common discourses of development and environment on both sides, and existing groupings of actors at all levels received a new impetus from the conflict and the opportunities it has brought for new and international sources of funding, and connections with international markets. Networking is a consistent theme in the data in reference to the practice of working together with other organisations to achieve shared goals, reflected in the anti-mining rhetoric of being unified in their resolve to contest the imposition of an unwanted activity in the cloud forests of Intag.

I think that this case study demonstrates a clear example of Hajer's concept of the discourse coalition (1997), there are clearly identifiable alliances grouped around environmental and development discourses in evidence within the Intag conflict. On the anti-mining side is the Committee of Communities Affected by the Mining Project, Eco-Junín, Assembly of County Unity (*Asamblea de Unidad Cantonal Cotacachi*), Municipality of Cantón Cotacachi (*Municipio de Cotacachi Gobierno Local)*, Community and Parish Development Coordinator for Intag, *DECOIN (Defensa y Conservacion Ecológica de Intag*), INTAG newspaper (*Intag Periódico*), Intag's Women's Coordinating Committee (*Mujeres de Intag*), Ecological Action (*Acción Ecológica*), *Asociación Agroartesanal de Caficultores Río Intag (AACRI)*, and latterly *Corporación de Gestión y Derecho Ambiental (ECOLEX).* Furthermore, international claim-makers such as Consumer Solidarity Network (*Xarxa de Consum Solidari), SODEPAU* and *SODEPAZ* , Friends of the Earth Canada, Junín's International Observer Program, Mine Watch Canada, Rainforest Concern, The Sloth Club, and The Cotacachi Ecology Centre have played certain roles during the conflict, including project development, and funding strategic land purchases and project development.

The alliance on the pro-mining side is comprised of Ascendant Copper, CODEGAM (*Corporación de Desarrollo de García Moreno*) until March 2006 saw a change of allegiance on halt of monthly funding, the environmental consultancy for the EIS *Terrambiente*, Syr-Whistler Consulting, one section of the Ministry of Energy and Mines (*Ministerio de Energía y Minas – MEM*) responsible for awarding the mining concessions, though the EIA section of the same Ministry refused approval of the initial Environmental Impact Statement submitted by Ascendant and criticised the level of public participation in the local communities as insufficient at that time, also the Government of Canada's representative in the Canadian Embassy in Ecuador, and the Ecuadorian-Canadian Chamber of Commerce.

The divided Parish Council of García Moreno finds itself in the middle, its leader sitting on the fence in her public statements, though at times speaking at anti-mining events, and seemingly unable to take a position in either camp, thereby distrusted by DECOIN, yet trusted by other anti-mining claim-makers. The Ministry of the Environment (*Ministerio del Ambiente – MEA*) is in a weak position, unable to oppose the mining proposals as the boundaries of the specifically revised map of the mining concessions fall just outside the nearest designated Nature Reserve of Cotacachi-Cayapas under their jurisdiction. The National Institute for Agrarian Development (*INDA*) is implicated for its role in land titling and legalisation. Other international actors, such as the World Bank, Toronto Stock Exchange, and the Organisation for Economic Cooperation and Development's (OECD) Country Focal Point, have all played either a peripheral or more central role at different stages. These groupings of claim-makers around key, hegemonic discourses are discussed in the following section which analyses their role in the claim-making process.

Each claim-maker sees their power-base as situated among their allies who are quite clearly lined up along one side or other of the pro or anti-mining lines, with the exception of García Moreno Parish Council, whose 5 members are split, 2 on each side, with the female *mestizo* President from the Pachakutik Party unable and unwilling to show allegiance to either side publicly. The anti-mining claim-makers are more explicit in their statement of all their fellow opponents than the pro-mining claim-makers. Perhaps this makes them feel stronger in a struggle in which they really feel like the David against the Goliath of the State allied with the international mining company; for this reason the anti-mining lobby has sought to identify and attract international attention and political and financial support for their campaign to counterbalance the power and influence of the Ecuadorian State and the transnational company. The pro-mining non-governmental organisation CODEGAM saw the mining company as a strong ally while Ascendant was giving $1000/month for its running costs and an additional $250 000 in funds to carry out infrastructure improvements in the Parish. However when the company withdrew its financial support after 12 months, in January 2006, on the grounds that CODEGAM had embezzled over $200 000 of this money, failed to carry out more than 2km of road improvements, and was misusing their position and money for political activities not supported by the company, CODEGAM changed its allegiance immediately.

There is heterogeneity among the rural claim-makers; these *campesinos* are not united in their view on the future development of the Intag area. As a consequence, communities, even families are divided in their views on the mining development. Therefore there is no common *campesino*

discourse describing their development perspective, no agreed environmental discourse, as there is no common motivation or shared interest across the rural population. Those against the mine have become interested in environmental and ecological issues as their motivation is in contesting environmental change and preserving the status quo. Those for the mine use a form of discourse in which they have to oppose this and demonstrate little or no interest or motivation in protecting the environment or ecology and therefore are open to welcome the economic opportunities of the mining development.

While the rural claim-makers are not of one accord in relation to the future of Intag's development, the clear discourse alliances in operation are multiscalar between urban and rural-based claim-makers. In this respect the shared views and beliefs make for collaboration between people who have seldom met each other in person, yet their discourse is one committed to the same struggle in support of environmental conservation for local and global benefit. The same cannot be said for the pro-mining claim-makers whose shared interests bind them in a different way, as this is not presented as a goal of planetary importance even though ever increasing demand for copper comes from our thirst for microchip-based technologies dependent on copper components, through their views on resource exploitation and the trickle-down effects of mining activities for the local communities of Intag, and of course economic benefits for shareholders and the national economy.

6.2.4 What is the local decision-making framework for the claim-making process?

The formal framework is provided by successive levels of development plans produced by each level of government, from the County of Cotacachi upwards, through the Province of Imbabura, to the State level. The municipality and its partner the *AUC* have produced a strategic plan for Cotacachi known as the Ecological County Plan, a document which sets out strategic policies for all sectors of development planning within an ecological management framework; this also created an Ecological Ordinance for the County which sets out the rules of engagement for the future development of the area and its natural resources, and explicitly excludes all forms of mineral extraction. Whether this is a planning methodology which as been adapted for the conflict situation or not is a moot point. Certainly the timeframe in which it was designed and implemented in 1997 by the newly incumbent Mayor falls within the early days of the conflict, post-Mitsubishi and pre-Ascendant Copper, and so I assume this context was created which took into account the probability of mining activities re-appearing on the political horizon.

However this AUC planning process, designed for development policy planning, not yet spatial planning, has become a vehicle for the anti-mining voice. There is no formal consultation period after plans are drawn up at the Assembly meeting for objections to be properly heard and considered and plans to be redrawn if appropriate, an approach found in many planning systems which, along with an appeals system, is designed to resolve policy conflicts in space. So, I would have to conclude that there is no framework within this participatory planning approach for conflict resolution or mediation at the local level outside the annual workshops which feed into the general plan.

The process by which this plan is determined is an ongoing series of annual Assembly meetings over 2-3 days each Autumn when all residents are invited to participate in a decision-making process which centres on the work of 5 central committees of the Assembly, deciding on the policies, priorities and work programme for the next 12 months, with a gathering of all participants to discuss overarching issues such as the mining conflict in extraordinary meetings, such as the one I attended in December 2004. This had space for audience participation but the minority voice (pro-mining) was not heard sympathetically in the plenary. At the 2005 Assembly, police officers were present and the event was recorded, apparently in anticipation of violent pro-mining interventions CODEGAM-style, to capture any altercations and the culprits on film.

In reality, as I have mentioned earlier on, this process, while open to all residents of the County, sees the active participation of just over 500 people, the majority of whom are either *mestizo* or indigenous, and supporters of the Major and his anti-mining policy. The gender balance in the leadership and participants still tends to be male-dominated, though the first President of the AUC and now deputy-Mayor is a woman, as is the current President of DECOIN and also Chair of the AUC Environment Committee. Senior male colleagues, who in this case are the indigenous Mayor, President of the AUC, and long-term US expatriate Executive Director of DECOIN, represent their organisations and their claims internationally when opportunities arise.

The grassroots anti-mining and environmental groups are well-represented in this participative decision-making process, indeed these are the dominant interest, and make up a significant majority of the 500+ participants, a configuration which has lead to the participative process to be perceived by both anti-mining and pro-mining groups alike as a vehicle for the promotion of the anti-mining interests' and the Ecological County vision of a mining-free development zone with eco-tourism, and eco-agricultural practices.

Regarding the issues of the rights of local government and communities to determine local development through consultation and participation in decision-making processes, it is ironic that in the County with international award-winning participatory processes that such an environmental conflict can arise. There clearly is political mileage in contesting the exclusion of local people from the decision to award the mining concession. This position is pursued by the Mayor, whose adoption of the anti-mining rhetoric and participation in the claim-making process post-dates his election in 1997 and has developed strongly during his decade-long term of office. It has served as a vehicle to engage with the mestizo Inteños who otherwise might have felt excluded from his original indigenous rights-based platform. Through engagement with the western discourses of biodiversity conservation and ecological development in this way he has created a sense of solidarity with the anti-mining factions of the rural populations farming in the cloud forest, and consolidated his position politically with the support and clear allegiance given to him by the anti-mining leaders there. At the same time as a politician he continues to oppose his traditional adversaries in the locality and the region who are largely in favour of mining and who continue to influence all media reports with a pro-mining bias and to criticise the Mayor of Cotacachi for holding back the region from realising its full economic development potential[1].

6.2.5 Public presentation of claims

The anti-mining rural claim-makers show a clear awareness of how they are perceived and/or how they want to be perceived. In conversation with rural anti-mining claim-makers from Intag it clear that they know that the appearance, and the reality of being well-organised is key to the defence of their claim, regardless of whichever mining company they are up against. As one says "*Si no estamos unidos, no somos legales, cualesquier empresa, cualesquier organización se viene por encima de uno. Entonces hay que ser un poco más, como se puede decir, prolijos en estos problemas.*"[2]. This is echoed by others, including the President of DECOIN who says of her organisation, "*Somos gente que hemos aprendido realmente de ver la necesidad de que es importante estar organizados, no cierto.*"[3] This indicates an appreciation and knowledge of the power of image, and the discourse of strength, organisation, and unity are repeated themes across the claim-making process of the anti-mining groups.

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[1] *Field Notes 2005-2006*

[2] If we are not united, not legalised, then any company or organisation whatsoever can override us. *051113 Eco-Junin OC Junin*

[3] We are people who have really learned to see the necessity of what is important to be organised, certainly. *061218 DECOIN SQ Apuela*

In analytical terms it is possible to construct labels for the claim-makers that many would not recognise or want to identify with openly. One clear division is between those who prefer to use only legal means to achieve their aims, and others who will resort to technically illegal actions such as seizing and burning down mining company property which they justify as the only way to defend their position or as a gesture required in order that their claim be heard. Thus in the last decade there have been two occasions when the anti-mining community members razed mining companies' properties based in Intag to the ground. One rural claim-maker, referring to the first incident says "*Bueno, la historia de la mina, nosotros venimos llevando esta lucha ya hace 8 años atrás. Y primeramente fue la compañía la Bishimetal, quien en unión de diferentes comunidades, [eh], desalojamos, a la compañía, nos tomamos el campamento y le quemamos. Fue por, por motivo de que hicimos varias invitaciones a los dueños de la empresa Bishimetal, nos hicieron decentes, nosotros tomamos esa decisión.*"[1]. Another rural claim-maker[2] in her account says that there was a group of people who made a protest at the mining camp, where at this time there was only a caretaker left. She says that some people say that they were the ones who set fire to various machinery that was still there in the mining camp (she laughs at this point), but they were expecting to have discussions with some representatives of the mining company who they waited for and who never turned up. This story of a lack of response correlates with a web alert posted later that year by Rainforest Action Network who, in their reporting of the communities' direct action, said "*On May 12, the affected communities called on government officials to meet with them immediately to discuss local concerns about the Mitsubishi mine. After 72 hours of no response, and with the help of some 100 villagers including women and children, all goods were inventoried and removed from the site. Then the community members burned the mine to the ground.*"[3]

At the time Rainforest Action Network presented the subsequent decision of Mitsubishi to stop all exploratory work and to leave Intag to the world on its website, saying "*This May, rainforest communities in Ecuador's cloud forest stood up to the largest transnational corporation in the*

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[1] Well, regarding the history of the mine, we started fighting it already 8 years back. Firstly there was the company Bishimetal, the company which we ousted with the different communities united, we took the camp and we burned it. This was motivated by the fact that we had made various invitations to the owners of the Bishimetal company to do the right thing, we took that decision. *051113 Eco-Junín OC Junín*

[2] *051007 Eco-Junín RP1 Junín*

[3] Source: Ecuador Forest Communities Shut Down Mitsubishi Mine - for Now: Rainforest Action Network (http//www.ran.org/ran/) July 1997 from DECOIN's website ACTION ALERT 7/12/97 Ecuador Forest Communities Shut Down Mitsubishi Mine *971207 DECOIN Mitsubishi Closure Intag*

world - and won. Now it is up to us to make sure that the victory is permanent."[1] With regard to the second illegal action, not all anti-mining claim-makers agree with this approach, as this is a heterogeneous group at the best of times, but they can understand what led up to this second direct action, as one man[2] says in public at a meeting with representatives of the MEM, the Police, and pro-mining groups. This is an example of a power imbalance created by the mining company's financial support of one pro-mining community group which was then employing violent tactics to intimidate the anti-mining groups. Equally there are those who actively seek to employ international influence and to seek international finance, *e.g.* Ascendant Copper and funding *e.g.* DECOIN, and Cotacachi municipality and other anti-mining claim-makers, so there are some organisations positioned on opposite sides in the conflict that none the less use the same strategies to determine the outcome in their own favour.

6.2.6 Gatekeepers, Mediation and Empowerment within the claim-making process

Unlike African nations, Ecuador has no powerful chieftain system to mediate as power brokers between the State, the mining companies, and the local rural communities whose land or property abuts open-cast mining works. Instead local government structures are used by the groups resisting the mining developments as the institutional interface between the local communities and the State, as well as non-governmental organisations working at the local and national levels. The local governments are not the gatekeepers of Ecuador's mining rights; those are presided over by the State by the Ministry of Energy and Mines. Unlike in other regions there are no clear or obvious political leaders who currently intend to broker agreement between the mining companies and the local communities over such matters as the community development programme, compensation, land transactions, community resettlement, environmental management, and biodiversity conservation. Indeed in Intag the leaders on the different sides of the conflict are far from taking up their positions in the negotiation stage of conflict resolution.

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[1] Source: Ecuador Forest Communities Shut Down Mitsubishi Mine - for Now: Rainforest Action Network (http//www.ran.org/ran/) July 1997 from DECOIN's website ACTION ALERT 7/12/97 Ecuador Forest Communities Shut Down Mitsubishi Mine *971207 DECOIN Mitsubishi Closure Intag*

[2] There is a history of experience in the zone with mining, for him the violent actions of the community are not acceptable at all by his criteria but we must take into account its antecedents *i.e.* the company funding a community group which took violent actions. He welcomed the change in company policy in late 2005, but this same community group was continuing to operate, financed by Ascendant Copper to the tune of US$1000/month and still more than the $750/month budget of the Parish Council. This funding permitted CODEGAM to transport people from outside the Parish into Garcia Moreno for its annual public meeting to deliberately disrupt it and stop the legal process of the meeting which is to agree the all local issues *e.g.* health, education, and not just the mining development. It was his view that the company needed to stop its contract and with it its support of CODEGAM before any dialogue could really start. *051221 MEM Meeting1 Quito*

The facilitation of new large-scale mining projects in the rural areas has catalysed a socio-political process whereby communities have been empowered to create their own structures of representation and to innovate with using introduced forms of local political participation informed by new types of knowledge which spur the claim-makers into fresh campaigns to articulate and exercise their various rights. While on the one hand the re-written national mining legislation has been so done to facilitate foreign investment and economic development in rural areas, the reality has been that such development has been frustrated by newly empowered and politically activated anti-mining groups in what can only be described as intractable disputes over the acquisition and expropriation of mineral rights, constitutional rights to community consultation, land rights, and environmental rights over biodiversity.

The anti-mining sides of the Intag conflict is fronted by an indigenous mayor whose ethnic community was disempowered and marginalised politically since Spanish colonial rule. His municipality has pioneered new forms of participatory governance and sustainability in Intag as a form of resistance to mining development there by providing economic development alternatives. With regard to the Akpan's (2007) discussion of the gradual shift in recognition of communities within the mining policy landscape from invisible and identity-less to prominent visible socio-political entities I would argue that this shift has occurred in Intag. In the mid-1990s, the initial period of granting the concessions, the people and existing social fabric of the zone were largely ignored by the Ministry of Mining and Energy but over time the mounting community resistance, engagement with the discourses of development and environmental protection, and political activism have together increased the inhabitants' profile both in the eyes of the State through MEM and the mining company Ascendant Copper.

6.3 Strategies for the engagement of claim-makers

Each claim-maker easily articulates their strategies, such as communication, information, education, legal action, land titling, land purchase, and direct action. Over time the claims made by all sides of the conflict have become more focussed both on addressing the weaknesses in their case by bolstering their position and on attacking the claims of the opposition, using many and various strategies at all levels from local to international, all forms of available media, different languages, various sites of delivery, and an imaginative range of arguments and discourses to draw in, these are discussed below.

6.3.1 Information and communication

The warring strategies of information dissemination and increasingly conscious and sophisticated communication strategies were devised and applied within the Intag area, mainly targeting the local rural populations for capacity-building purposes but also an international audience through the use of predominantly English-language websites of both DECOIN and Ascendant Copper. The initial programme of information about the effects of copper mining was carried out by Acción Ecológica, a radical environmental NGO from Quito with a long history of anti-extractive industry campaigning gained in Amazonia. This organisation teamed up with the then newly formed DECOIN to deliver workshops in Intag on the environmental impacts of extraction to the rural communities, using the statement from the EIA process carried out by JICA as case specific evidence. This education programme was amplified by the AUC which has initiated environmental education courses for all ages that reinforces the anti-mining campaign. The municipality of Cotacachi is another major organisation which employs environmental policy principles in its work programmes and, together with the AUC, was responsible for the 'Ecological Cantón' initiative launched in 1997 which set the policy agenda for the county in environmental and development terms with a vision which clearly does not include extractive industries.

The pro-mining side started its information and communication efforts far later in the day, with the formation of local organisation CODEGAM in García Moreno in early 2005 with the financial backing of Ascendant Copper. The mining company's first community relations team was known for its heavy-handed tactics of persuasion and in early 2005 were disbanded, under circumstances discussed elsewhere, though I still saw its former employees active politically in the Los Manduriacos area in early 2006[1]. The new team brought in by the new CEO in July 2005 and managed by a Canadian specialist consultancy in corporate social responsibility (CSR) has taken a fresh approach to the community relations strategy. The intention has been to draw a line under the previous approach which the mining company openly denounces as inappropriate and regrettable and to try to remedy the damage done in order to establish the necessary credibility to operate in Intag and gain public support using a raft of projects, including an information and communication strategy which aims to present what the company sees as the facts, and to counter what they see as misrepresentation of the truth by DECOIN particularly and its partners.

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[1] *Field Notes 2005-2006* In Chontal Bajo met Cesar Villacis (ex-General) with members of the Military Academy, Quito, and visiting known pro-mining supporters with copies of Ascendant's letter to CODEGAM in which the company withdraws its financial support totally and also its backing for any actions taken which do not comply with the socially- and environmentally-responsible criteria set out in the letter.

The information used by each claim-maker feeds into and derives from the discourse they create and employ, and these discourses represent their account of the 'truth' and fact, and the intention is that they become part of the knowledge repertoire within the claim-making process. The relative power of the claim-makers is in part derived from the strength of their narrative, its plausibility, and comprehensibility by people and organisations from which support is required.

6.3.2 Intimidation and violence

Allegedly there was a certain degree of violence and intimidation going on in the rural communities as a tactic to influence and to coerce individuals, families, and communities to support the mining company. This is documented in several accounts of anti-mining claim-makers[1] and also in conversations with the new generation of mining company officials brought in to replace those who were responsible for these actions in Intag and other pro-mining advocates[2]. The anti-mining groups have successfully brought this aspect of their claim-making to the attention of the national media, one notable example which was published on the DECOIN website is of the municipality's Intag-based official's appearance on a national television station Ecuavisa[3] after he and 5 other activists were allegedly attacked by company security employees.

Figure 15 Original Caption "El activista Jorge Pereira denunció la brutal agresión de la que fue víctima (Imagen: Ecuavisa)[4] *Source 061208 DECOIN Entrevista JP Ecuavisa*

The use of powerful images like this, along with video footage of other incidents of aggression which can be downloaded from websites linked to DECOIN's home pages, make the publicity of the violent nature of the conflict easier to convey to international audiences and support the anti-mining claims of acts of intimidation, even death threats, with admissible evidence.

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[1] *051113 Eco-Junín OC Junín, 051210 DECOIN News Bulletin, 060106 DECOIN Police in Junín, 070725 Amnesty International letter re death threats* among others

[2] *051222 Canadian Embassy MR Quito, 051121 ACu AMc Quito*

[3] *061208 DECOIN Entrevista Jorge Pereira Ecuavisa*

[4] The original caption reads "Activist Jorge Pereira condemns the brutal aggression which he fell victim to"

On the other hand, pro-mining informants give public accounts of intimidation and threats to their property made by anti-mining groups who are against those who have sold their land to the mining company. In a more recent twist in a letter from the EIA Unit head there are references to the threats apparently made by ecologists to the priest who allowed the company to use his premises as one of their offices for the local public dissemination of the results of the EIS[1].Thus the anti-mining side has not been entirely free of accusations of violence and intimidation from those Inteños who have sold some or all of their lands to the mining company and prefer to leave for Quito rather than live with these threats as referred to in Chapter 7 below.

DECOIN decided to explain and justify the reasons behind the damage to Ascendant Copper's property in early December 2005, writing "*DECOIN does not condone violence. Yet, it is essential to understand at least part of the context that generated this reaction. The events of today come after 18 months of aggravated assaults, intimidations, death threats, lawsuits, road blockades, violent aggressions against the Cotacachi Municipal government, and many other measures carried out against anyone opposing the Ascendant Copper Corporation's Junín mining project...On countless occasions, the communities warned the company not to go into their communities, and to respect their decision to live in peace and free of mining. But it was all to no avail.*[2]" Indeed this is a long catalogue of types of violence and intimidation against not only the rural communities, but also the municipality which had taken a consistent stand against mining since 1997.

6.3.3 Land transactions

Land transactions are a major impact of the conflict and in the claim-making process. On the pro-mining side in connection to the allegations voiced by rural claim-makers in favour of mining who had sold their land to the mining company and who have articulated their fears from the anti-mining majority in their neighbouring communities and the threats made against their property. On the anti-mining side it was a very vulnerable point. The acquisition of thousands of hectares of primary forest and agricultural land is referred to DECOIN which describes this strategy of the company adopted after their attempts to secure permissions were blocked [3] (Zorilla 2006).

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[1] *051220 CoC LS Quito, 060614 MEM response to DECOIN*

[2] Source: Communities in Intag Take Direct Measures Against Ascendant's Mining Facilities *051210 DECOIN News bulletin*

[3] Luego de que algunas de sus estrategias para conseguir los permisos fueron bloqueadas, la empresa se dedicó a adquirir miles de hectáreas de bosques primarios y áreas agrícolas en la zona adyacente el área minera.

6.4 Analysis of environmental and development discourses being used

This section concerns the use of development and environmental discourses by the claim-makers within this struggle. To keep this to a manageable and meaningful exercise I consider data on a couple of selected claim-makers by way of demonstration, and link this analysis back to the existing literature in the theoretical work on environmental and development discourses. The two main claim-makers I have selected as the objects of my analysis are DECOIN and Ascendant Copper Corporation. I recognise that no two organisations are the same therefore I am not comparing 'like for like' but instead two organisations that see themselves in diametric opposition to each other and as such as 'equal' opponents, not in terms of resources but matched in their sheer determination to win the conflict. As such each is the target of each other's claims and counter-claims as part of the dialectical process of claim-making. Each organisation is surrounded by a cluster of supporting claim-makers representing all scales from local to international. These multiscalar discourses employed by satellite claim-makers in the rural communities, in the capital, and overseas, transcend traditional boundaries of location and scale.

On first appearance, one split between DECOIN and Ascendant Copper is along the simple line of environment versus development claims with the environmental NGO, whose very name is derived from the ideas of defending and conserving Intag's natural resources, campaigning for biodiversity conservation and the mining company asserting its rights to extract copper resources. The two main claim-makers selected their strongest base for articulating their interests through a claim, and over time, as the lines were drawn to demarcate their discursive territory, also make incursions into the opposite camp's discourse area in order to claim that area themselves. Yet, through the claim-making process there occurs such an interaction between the two discourses that the distinctions become blurred as claims even threaten to overlap. Thus environmental protection becomes environmentally-sound forms of development, and mining development becomes environmentally managed and socially beneficial. The claims and their counter-claims almost cross over as the conflict's dynamic becomes cyclical in nature.

In writing this I find myself drawn to using military language, terms, images and metaphors to describe the struggle and the claim-making process unlike the claim-makers themselves. However, to extend the metaphor, on the one hand DECOIN's 'foot soldiers' found in the rural anti-mining groups refer to a struggle, not a battle for instance. They have gone through rigorous training over the past decade, in the form of environmental education to learn the importance of

defending their natural heritage and biodiversity. On the other hand, Ascendant Copper's 'mercenaries' are well paid to work as unidentified informants within the rural communities, some rural landowners from the same communities have been willing to sell up for above market prices, and others drawn from the existing local political 'elite' were used to form CODEGAM from ready-made leaders who needed only funding and education in the financial and economic benefits of mining development, and their personal ambitions for the area did the rest.

As a former local politician once said to me, the conflict is motivated by the same drivers and in his view behind both sides is pure personal economic interest[1]. This is not a view that I agree with entirely on the basis of my data alone where I found that there is genuine concern among certain rural anti-mining *campesinos* about the significance of the environmental value of the cloud-forest which is beyond any financial value put on it or the resources below[2]. Certainly there is a small proportion of the rural population motivated by money from the sale of their land, jobs working in the mining industry, and percentage of the profits from the mine that must be paid to the local municipality for investment locally. Equally there are others who express the value of being able to remain on their land and to work it how they choose to earn their livelihood, while at the same time retaining the high quality environmental media all around, with its value to the local communities as a natural resource and to populations at a distance for the environmental services it represents, including as yet unmeasured levels of biodiversity. An anti-mining informant explained his understanding of the motivation of the fractional pro-mining interests in his community, which he numbers at 1% of his community's population, as purely economic[3].

Which discourses are being used by the selected claim-makers?

The idea of discourse is associated with the work of Michel Foucault, and therefore the discourse of development in this conflict is reflecting the claim-makers' different ways of thinking and speaking about development, as well as how they implement their version of the discourse in practice. The same applies to environmental discourses, the language used, the beliefs this expresses and the actions which bear these out in reality by the claim-makers themselves and their tangible material practices.

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[1] Don Juan made a very interesting observation, that both the protagonists y antagonists have the same agenda to promote their own interests which are all about economic benefits. *Field Notes 2005-2006 051024*

[2] *051007 Eco-Junin RP1 Junín, 060217 Junín EL Junín, 060207 Municipio FG Cotacachi*

[3] Sobre la negativa a ese proyecto, están, bueno hablando por porcentajes, el 99% esta en contra del proyecto minero, el 1% esta a favor. Por intereses económicos. *060213 DECOIN JG Barcelona*

The claim-making process employs multiple development and environmental discourses, mainly Northern in origin, rather than local or indigenous, which is I contend is potential both an advantage and a drawback. A positive aspect in that linkages are easily made with international organisations who were part of the discourse coalition which created the discourse of biodiversity, or sustainable development, but potentially negative in that the connections to the Ecuadorian culture and traditions of environmental management, with origins in the indigenous Quechua cultural traditions might have leant a special dimension to the claims of the anti-mining side. I suspect this would be unique to their claims and not substitutable by the pro-mining claimants in the usual process of claim and counter-claim-making and provided a strong argument if it could be substantiated as this would be their own locally-based and meaningful claim. An emerging theme concerns whether the representatives of local claim-makers are using or perceived as using 'borrowed', non-local environmental and development discourses. This is connected to the post-structuralist approach to this analysis of discourses which goes further than writing about the claim-makers' various expressions perceptions through their claims, to take the position that they are unconsciously using ideas that they don't own and this may create a structure that limits the effectiveness and the impact of their use of the discourses. This in turn links into the idea of their agency being constricted within this discursive structure brought in from outside the country. It is an illustration of the way in which claims can both empower and disempower the claimant within the social process of claim-making as the knowledge formulating the basis of each discourse promotes or inhibits its effect as a claim and affects the dynamic of the claim-making process and the agency of its claim-makers

In terms of the environmental and development discourses being used by each claim-maker some discourses are common, others are quite distinct. Generally, the pro-mining groups use a development discourse of neo-liberal dimensions, and an environmental discourse of ecological modernisation. The mining company uses a discourse of economic development, employment creation, poverty alleviation, improved access to education and health services; the rural communities against the mining project talk instead of loss of land and agricultural work, environmental and health problems, loss of primary forests and the introduction of crime and social problems. The anti-mining groups use a development discourse of sustainability and environmental discourses of conservation and environmentalism of the poor (Martinez-Alier 2002). In the environmental discourses that rural claimants are using, the significance of biodiversity conservation and environmental protection is clearly expressed, a simple device.

Other claim-makers, such as DECOIN use sustainability and biodiversity discourses, as well as environmental justice arguments about the exposure of rural communities in a developing country like Ecuador to the environmental and health risks of mining for the benefit of shareholders from the North. Political ecology criticises 'environmentality' for assuming and declaring that environmental bads are suffered equally by all humans, when in fact it tends to be certain groups of the society that experience more pollution than others *i.e.* poor, vulnerable, excluded etc. However environmental justice can in turn be criticised for over-generalising about the rural poor, as just in this case in Intag this group is not homogenous and while some prefer poverty to pollution others prefer economic opportunities that may cause significant environmental harm and health problems and are prepared to take this risk. One of the main themes emerging from the data is that not all *campesinos* exclusively identify themselves as environmentalists or ecologists. Clearly the same people have social and environmental interests as well so that economic motivations and attractions prevail, sometimes under the guise of economic development discourse and sometimes under the guise of discourses of environmentalism, the discourse selected clearly linked to the achievement of power to protect these heterogeneous interests.

The local environmental and development knowledges and values of local claim-makers and of their representatives who are mediating on their behalf are another aspect of this discussion. Each of the local anti-mining claim-making communities shares similar environmental and development knowledges based on the training delivered by the national environmental action group Acción Ecológica and the Intag-based DECOIN over the past 8 or more years. There are some subtle differences in the interpretation and application of this knowledge, and contrasts and even contradictions between the rhetoric of environmentalism and the lack of changes to agricultural practices in the community of Junín for instance as discussed in terms of the impacts of the conflict on rural material practices below. However there is unsurprisingly a great deal of commonality in the environmental rhetoric of sustainability and biodiversity conservation bandied about by the farming informants and their representatives in DECOIN and other local organisations such as the coffee-growers AACRI probably because they all received the same capacity-building. The local pro-mining CODEGAM and local farming families who have sold their land to the mining company appear from their claims to share more knowledge of the economic development benefits and environmental technology that modern mining methods employ and certainly demonstrate this as a tactic to promote the advantages of supporting the mining company's project in Intag.

The development and environmental knowledges and values of the non-local claim-makers on the anti-mining side shows a difference in the greater detail of its content, and smoother presentation than their local counterparts but essentially the same broad concerns and values are expressed, with the same difference again between non-local anti-mining organisations, where this is located in the capital city, or an international location. Of the pro-mining groups, the mining company's knowledge and experience is of the development potential of a large-scale mine and the social and economic benefits that this can bring into rural areas, and its environmental knowledge is based on the Environmental Impact Statements that are produced by the consultants it employs.

The socio-ecological processes at play in the negotiation and implementation of development and environmental discourses in this ongoing socio-environmental conflict are an outcome of the dynamic of the conflict and the claim-makers; there is a strong process of negotiation and framing of claims through the use of both environmental and development discourses on the part of each single claim-maker in the conflict, as each sets out their values and interests in relation to their position and reflects this through their claims. This case study exemplifies the observation that, in themselves, environmental discourses are comprised of '*an astonishing collection of claims and concerns brought together by a great variety of claim-makers*' (Hajer 1997).

The relationship between environment and development conflicts highlights three prominent perspectives in the analysis of the relationship between environment and security. These are that: conflicts arise over competition for scarce and sacred resources; that environmental conflict is linked to a society's transition from a subsistence economy to a market economy; and that violence in many developing countries occurs when different groups attempt to gain control of abundant resources. These analytical approaches can be related to certain environmental discourse categories (Dryzek 1997) in the following way. The first refers to resource scarcity which is classified by Dryzek as a 'survivalist' crisis discourse of "*looming tragedy*"; and the third approach its diametric opposition because it refers to an abundance of resources, in a style typical of the 'promethean' discourse of denial and "*growth forever*"; with the second approach, with its references to the market economy, having more in common with 'marketisation', one of Dryzek's problem-solving discourses known as 'economic rationalisation', which is characterised as "*free market environmentalism*".

These three aspects pose relevant questions about the nature of the competition over the resources at stake in the Intag conflict. Unlike a situation where there is just one type of resource being fought over, *e.g.* water, or oil by the same interests, in the Intag case there are different types of resources one mineral and the other biological, both irreplaceable, finite and therefore with scarcity value measurable in monetary and non-monetary terms respectively. While copper is not sacred to the people of the conflict, its worth is highly valued and it is the scarcity of the mineralised resource in relation to current market demand which makes its extraction so attractive to business and State economic interests. The biodiversity on the other hand is considered sacred in certain ways by people with environmental interests that span all levels from local to global. The cloud forest's tremendous biodiversity is considered a scarce resource and invaluable to preserve for widespread benefits to humankind both now and in future for its environmental services and as yet unknown biomedical resources that the primary forest is thought to potentially contain. The conflict has thus arisen over a competitive situation whereby scarce resources of two completely different types are prized differently and possibly equally by the rival interests.

It is from this process of the contestation of opposing claims, albeit not over abundant resources, that the violence has arisen which has been symptomatic of the Intag conflict as one side attempted to intimidate and threaten the other into capitulation of their claims over the future of the Intag valleys. Finally there is also the question of whether the conflict has arisen from the transition of the economy between subsistence and market forms. In Intag the very nub of the conflict turns on the antagonism between different approaches to the transition going on in the local economy, a tension played out at all levels above as well. The opposing interests invoke starkly contrasting visions of the future development of the area, with either an extractive industry-based economy which will radically and irreversibly change the area, or an ecologically-adapted economy which preserves the resources which are there and allows only environmentally sensitive forms of local development.

Indeed outside the Intag conflict there are strong arguments being made for keeping mineralised resources underground until such time as the means of extraction are far less destructive and the political systems for the distribution of the economic proceeds from the sale of the copper are more equitable and transparent, to the benefit of the communities and countries where the resources are located. For this to happen implies a shift in the balance of power between North and South, and requires a rejection of neoliberal ideology in favour of ecological democracy.

6.5 Synthesis of discourses as claims in terms of knowledge and power

My research explores how the Intag conflict's claim-makers' use of dynamic environmental and development discourses and application of various forms of knowledge, and information and communication strategies determines the balance of power in the claim-making process where claim-makers' agency and the structure within which they operate is constantly negotiated. It also explores the interaction between the employment of discourses, and knowledge and power and how knowledge informing discourses affects its power as a claim and in turn each claim-makers' changing agency within the dynamic structure of this socio-environmental conflict, as the agency of claim-makers and the structure within which the claim-making process operates is constantly negotiated and redefined.

The spatial dimension of the claim-making process sees a concentration of environmental discourses in the communities most directly affected by the mining proposal, and a concentration of development discourses in the more distant population centres where CODEGAM sees its power base making it possible to map the concentrations of the opposing factions in relation to proximity to the concession areas.

On the level of the conflict itself between the claim-makers there is a complex set of relationships, inter-dependencies, alliances, both current and historical, and evolving often in surprising ways, such as when the local NGO created by Ascendant Copper turned against the company when its funding was withdrawn, and CODEGAM found itself sharing a common objective with DECOIN and the Communities' Council of obstructing any of the mining company's employees from entering the area. This involves the flow of information; it denotes communication networks and hierarchies of power, of funding and finance, of political connections. The information held by different claim-makers is controlled and released as their knowledge according to the desired effect on the power dynamic. In relation to this I see that the way in which information sharing between claim-makers and me as an independent researcher reflected their agency with the structure of our power dynamic which influenced the behaviour of claim-makers and researcher alike.

A well-established local decision-making framework has provided the vehicle for the articulation of the anti-mining vision of the ecological Canton in a powerful setting which has impressed international organisations to award prizes for the AUC's democratic approach which is used

primarily for the elaboration of social, educational, gender and economic projects which mutually support alternatives to mining development by actively demonstrating other options throughout the entire Canton, beyond Intag. The AUC in theory also provides the space for the public presentation of claims on all sides although I saw that in practice the pro-mining claims and their advocates are unwelcome in this forum. Within this purpose built institution's structure power clearly is held by the Mayor and appointed President of the AUC and the Chairs of each thematic committee much to the discontent of certain newly disempowered local people, those whose political interests were traditionally served before this Mayor was elected, and who are resentful of what they feel as their exclusion and lack of political power to intervene through this participatory mechanism and its discourses of inclusivity and empowerment, and the celebration of Cotacachi's multiethnic and multicultural communities.

The conflict has witnessed multiple strategies for the engagement of claim-makers which have included: intimidation and violence, allegedly to a certain degree on all sides but always against members of the rural-based communities where evidence is hard to substantiate and crimes often go unreported and under investigated; legal strategies have engaged claimants in legal processes to formalise the registration of their own lands and their communities as recognisable entities; land purchasing was a major strategy of the company to access its concessions and saw the balance of power appear to tip in their favour for a short period when a multitude of Inteños clamoured to sell their lands, though this was short-lived once the anti-mining Council of the Communities decided to protest their claims by razing the company's local property to the ground which effectively seized their power back through halting the land purchases and the use of money to influence rural communities; Information and communication have been vital strategies used by all sides and the control of information by claim-makers, in terms of what is made available and how it is constructed as a discourse, is used by both sides to affect the balance of power.

In terms of an analysis of environmental and development discourses being used I would say that their impact on the power dynamic of the conflict has evolved over time as they are put to different uses by the opposing claim-makers who selectively use different forms of knowledge which is sourced from claim-makers at all scales, but with the tendency for information to be passed down from the international level to be shared between the national and local levels where the deliberate application of this knowledge promotes their own discourses' effectiveness and limits that of their adversaries in the conflict, thereby shifting the power balance.

Particularly relevant to my research is the way in which political ecology frames the study of the shaping and use of discourses through the power relationship between claim-makers and its effect on knowledge systems and social relations. This examination of socially-constructed discursive strategies reveals the operation of power at institutional and societal levels, which is used in the dynamic process of empowering and disempowering claim-makers in socio-environmental conflict. Alliances and discourse coalitions have been the most effective mechanism and dynamic in the conflict which has formed around claims on the future form of Intag's development and its economic, social, cultural, and environmental and ecological consequences. These discourses have been part of both the strategies of engagement because of the need to use ideas that attract popular local support, by connecting to existing interests as well as belief and knowledge systems, and vital to the functioning of the claim-making process and its successful outcome through awarding power to the claims. Thus the superiority of knowledge and claims based on that knowledge lead to a superior form of power in claim-making and ultimately in the position of the claimant at that particular time in the social process of the conflict through its dialectical nature.

6.6 Conclusion

To answer my research questions I conclude from this chapter's discussions and analysis that:

- The claim-making process involves claim-makers from Intag who are highly visible and active but represent only a minority of the population of the area on both sides.
- There are clear relationships between claim-making individuals and also the various groupings and organisations they belong to and have formed through the conflict. These form along the lines of the antagonism between positions pro and contra mining development. Some shifts between these seemingly entrenched positions appear to be related to the offer or withdrawal of money and funding. A number of local people hold multiple political roles from which they derive their strategic position and consolidate power.
- Strong alliances have formed as discourse coalitions which generate a competitive advantage in the claim-making process through powerful multiscalar alliances between local, national, and international levels. New partnerships and working arrangements have been created which have increased levels collaboration and forms of cooperative working between the rural communities. These still draw on strong kinship ties, particularly within the anti-mining side, but have also formed from discursive allegiances which have broken family relations over the conflict.

- The discourse alliances are multilevel rather than location based, and enhance the flow of power between levels and places through the claim-making process dynamic.
- The claim-making process operates within local and national decision-making frameworks and their respective planning parameters and policy imperatives. New political spaces have been created by the municipality of Cotacachi for the articulation of anti-mining discourses and biodiversity conservation rhetoric in particular and for the elaboration of a local, democratic form of decision-making in which the most active and concerned residents take part.
- The claims are carefully constructed and presented using all forms of available media in order to reach the widest local, national, and international audience. Claims are based on selected information from which the discourses are constructed which reveal a partial view of the 'truth' of each side to effect a more powerful array of claims and tip the power balance favourably.
- Over the past decade activities and claims have helped raise the visibility and increase the agency of rural communities as rightful claimants within the Ecuadorian nation. Each side has engaged more supporters using a range of strategies including information, education, legal action, land purchase, social programmes, health facilities, intimidation, violence, and direct action. Both sides have also employed multiple languages, media, and multilevel sites of delivery of focused claims.
- The root of the conflict lies in the antagonism between the ongoing economic transition in Intag and other Andean communities from subsistence to a market economy in which there are opposing interests and visions of the future development of the area based on either an ecologically-adapted or extractive-industry based economy. This is a global ideological tension constructed from economic structural forces within which claimants have varying degrees of agency and the choice to comply or to struggle for their own local and viable alternatives.

Chapter 7 Analysing the Conflict's Impacts

7.1 Introduction

The purpose of this Chapter is to provide: an analysis of the over-arching impacts of the conflict and its claim-making process on local communities in Intag in terms of themes emerging from my data including money, legality, land, autonomy in decision-making; an analysis of the conflict's impacts on other 'moments' in the social process in terms of the 'material practices', 'social relations', and 'institution-building' dimensions; and concluding with a synthesis of the conflict's impacts on, and dialectic changes in, other 'moments' of the social process, namely discourse, knowledge and power.

7.2 Impacts of the conflict & claim-making process on local communities

7.2.1 Social division

In Intag the black and white categorisation of identities and the allegiances built around that polarity create a clear division at all levels of local society. Some of the anti-mining informants believe this to be the 'divide and conquer approach' of the mining company's campaign. One Junín informant, in comparing the community before the mining proposal with the current situation, says: "*Bueno, antes de la minería, todos éramos bien reunidos, bien todos si hacíamos trabajos, hacíamos trabajos todos en conjunto, y causa esta, sería suerte o mala suerte, pero así ha sido de ser, nos causaron bastante divisiones.*"[1].Contrasting the unified and mutually-supportive nature of the community before the mining project was proposed with the clear social divisions today and in so doing making a strong causal link between the divisions and the mining. Referring to Chalguayacu Alto, a neighbouring community, the same informant reinforces this message: "*Hoy hay bastante división. Y eso causa la empresa.*"[2] He clearly attributes responsibility to the mining company for the high level of division at that time. Others corroborate this suggestion of the company's power over social cohesion. DECOIN contextualises the direct action taken by anti-mining communities as an outcome of a series of events and describes *"a horrible division of communities in Intag that did not exist here before Ascendant's presence."*[3]

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[1] Well, before the mining, we were all united, if we had work, we all worked together, and because of this, call it luck or bad luck, but whatever it has been, has created quite enough divisions for us. *051113 Eco-Junín OC Junín*

[2] Now there is quite enough division. And this was caused by the company. *051113 Eco-Junín OC Junín*

[3] Source: Communities in Intag Take Direct Measures Against Ascendant's Mining Facilities *051210 DECOIN News bulletin*

There were many informants with similar claims, from other communities, such as Barcelona and Cerro Pelado[1], and among them one of those from Chalguayacu Alto who in willing conversation with me and 2 of the international observers came up with the subject of the impacts of the mine quite of her own volition. "*She lives in the community located above Junín, where the community and families are divided over wanting or not wanting the mine. She described how even some couples disagree, when at community or family events one side sits at one end of the room and the other at the opposite end. She says that when they decided to take a stand against the mine they knew that is would be a lengthy business, perhaps not as long as it has been, and at certain times they were really wondering what was going to happen, but they are all firm in their stance and will continue to be so, she seems proud of this*"[2]. She verified the extent of the social division in her community, and also repeated the anti-mining groups' determination to fight on to the end, which is echoed by a Junín anti-mining informant who says that when they saw that this was a serious struggle they resolved to fight for more than just a year, for a lifetime if necessary "*Entonces decimos que no, para nosotros era de toda la vida, si, toda la vida hay que luchar, toda la vida hay que luchar. Nosotros estamos organizados y todo eso.*"[3]

7.2.2 Unity

So, while social divisions are created at the local level, at the same time there is a strong sense of unity among those opposed to the mining, and oft repeated, and their determination is strongly connected to their sense of defending themselves. This resolve is recognised by the company, their community relations manager says "*I do recognise that some groups have, or appear to have, I'm sure they do have, a core anti-mining philosophy and its hard to imagine, you know, that you're gonna come to an agreement with those groups.*"[4], and in order to achieve this the company has a strategy which aims "*to gain the centre and gain the acceptance of most people in the area and bring forth a project with a social conscience, one that will be a net positive impact on the communities that surround it.*"[5].

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[1] Hiking through the mud and landslips across the track from Barcelona to Cerro Pelado we stopped on the way to visit a family 45 minutes walk outside the community who have lived there for 30 years, own a lot of the land and have been fighting against mining too. They talked mainly about the social divisions that had been caused by the land sales to the company in recent months. *Field Notes 2005-2006*

[2] She is one of the members of Eco-Junin and works as a cook for the visitor and volunteers, the best cook I think! *Field Notes 2005-2006*

[3] Therefore we decided that we would fight, even were we to have to struggle for a lifetime, then so be it, for a lifetime we would continue to struggle. We are organised and all that. *051113 Eco-Junin OC Junin*

[4] *051121 ACu AMc Quito* Interview

[5] *051121 ACu AMc Quito* Interview

The discourse of unanimity in their decision-making is clearly important in the justification of the anti-mining side's actions. It is stressed by DECOIN in its description of the process of decision-making involving these very same anti-mining communities that concluded with the decision to torch Ascendant's property, "*Over three hundred community members from approximately 20 communities in the Intag area of Ecuador gathered together at the village of Chalguayacu Bajo in a community Assembly, and voted unanimously to burn down the facilities belonging to Ascendant Copper Corporation, as a show of protest for the company's presence in the area. The decision was taken in a democratic and participatory manner in an Assembly organized by the Community Development Council to change the Council's board.*"[1] There was also an allegedly 'unanimous' decision within the anti-mining power structure to begin a process of land redistribution, "*Besides the resolution calling for the destruction of the Ascendant infrastructure, the Assembly also decided unanimously for communities to start occupying land formerly belonging to the Ascendant Copper Corporation for distribution to landless people or those with little land.*"[2].

Both these suggest the cultural influence of Quechua mores of shared responsibility and collective accountability which appears to have permeated these mestizo communities, with the influence of the indigenous Mayor. It is also a useful device to shield individuals from legal prosecution for these acts of community resistance. A fact repeatedly pointed out to me was how DECOIN distanced themselves immediately from the direct action using their website which is published from the United States, denying all knowledge of what was planned or took place. This appearance of a lack of solidarity or partnership between the local community anti-mining claimants and DECOIN was apparently agreed between all the parties to the pre-Assembly meeting that took place a few days before the action which included the national environmental organisation as well although this was also deliberately concealed. The intention was to deflect attention from the well-known individuals in these environmental organisations and demonstrate a new-found independence and political autonomy within the rural communities under their own leadership. Few people were convinced by this ploy however[3], not only the mining company but even anti-mining claimants with previous associations with DECOIN were highly suspicious.

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[1] Source: Communities in Intag Take Direct Measures Against Ascendant's Mining Facilities *051210 DECOIN News bulletin*

[2] *ibid*

[3] I think DECOIN's gone too far with this latest burning, and there will be legal repercussions this time. 05122- CoC LS Quito

7.2.3 Money

A common theme of the anti-mining side centres on money and its influence. This is in reference to the purchase of consciences which a resident of Junín describes in Spanish as a process which began with the company's land purchase activities "*Claro, antes, recientemente la compañía tenía mucho dinero y muchas estratégicas. Comenzó a comprar tierras y todo eso. Y comprar consciencias igualmente. Entonces, así compró muchas consciencias...* [but over time he saw the reversal of the process of selling out] *...Ahora están, hoy en día, ya están tomando en cuenta que las cosas no es realidad lo que ellos ofrecen. Todo es engaños. Y la comunidad igual ahora está manteniéndose firme, mucha gente estaba allá queriendo irse a lado de ellos, pero hoy está manteniéndose firme por tantos engaños que habido.*"[1] This indicates the power of the company's purchasing offer to influence some members of the rural population to sell up and move to the city, as some families from Junín have already done. However, as information circulated about lack of trust that the mining company's offer could be regarded with, those people who had been tempted to cross over to the pro-mining side have stayed in opposition.

The company's money, not just for land purchases but for the funding of CODEGAM is also a concern, particularly around the disappearance of company funds paid for infrastructure improvements, as one claimant explains directly in English, "*Its very easy for, you know, a large corporate interest that's got lots of money to spend on this kind of stuff to come in and buy people; its like giving away that project to CODEGAM, that $250 000 for that road, they knew they were going to steal that money but the people that were running the community relations programme they didn't care at the time, they knew, they were in on it too [laughs].* [2]. Evidence from a letter[3] I obtained, from anti-mining informants, written by Ascendant's Board to CODEGAM shows the company's displeasure at the loss of part of their investment and lack of control over

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[1] Recently the company had a lot of money and many strategies... started to purchase land and so on...they purchased consciences in the same manner...they bought a lot of consciences that way... but now, today, they are realising that all is not what it seems. Its all a deception. Now the community is remaining firm. In fact quite a few people wanted to go across to their side, but now they are staying resolute, because of all the deception that has gone on. *051113 Eco-Junin OC Junin*

[2] *051205 Los Cedros JdC Los Cedros*

[3] "We would like to again remind CODEGAM's members that we contracted to rebuild 11.5 kilometers road from Loma Negra-La Magnolia-Garcia Moreno. It disturbs us greatly that we paid over $250,000 for its completion, but less than 5.5 kilometers was finished and even the portion that was completed did not meet the technical specifications under the contract. Payment was made in full under the contract and we can make available all receipts for audit if CODEGAM wants to pursue completion of this road. We now understand that the road should not have cost more than $150,000 to complete. This is a perfect example of a project where a few people benefited at the expense of the communities...Our question is, if the road should only have cost approximately $150,000, why wasn't it completed and where did the money go?" *050721 CODEGAM Letter (final)*

the spending designed to improve local road conditions for the benefit of all the local users. The company, in the same letter, clearly sets out the purposes for which their financial input can be spent[1], and has by this time changed the mechanism for delivering projects via CODEGAM by reducing their monthly payments by 90% to US$1000 to cover administrative expenses and requiring specific proposals to be put forward under the categories they are willing to support. It also makes some telling specifications of the purposes for which none of Ascendant's money can be used *e.g.* it rules out persecution of anti-mining groups and individuals, as well as threatening or intimidating activities[2]. The Canadian Ambassador had already severely reprimanded the previous Managing Director for the aggressive and violent tactics that their community relations team – headed by a former Ecuadorian Army General who had been dismissed from his post – had been practising on the anti-mining groups in Intag. This shows the influence of the Canadian government on the conduct of its stock exchange listed companies overseas which must show the same corporate social responsibility approach as those companies operating domestically. As the company's relationship with CODEGAM further deteriorated it terminated the contract at the first legal opportunity of 12 months in and with that all financial support. At this move, CODEGAM swung over to the anti-mining side, threatening to block Ascendant's Junín project using the same techniques of road blocks. This is how the money can wield power to generate support among locally influential people, though not total control of how the money is spent or is appropriated by individuals, and how once withdrawn, there can be an immediate backlash.

On the other side, informants comment on the ease with which anti-mining pro-conservation claimants now can obtain international project funding as a result of the struggle is a fringe benefit it seems, one informant telling me "*...for me, in a lot of ways, it's the easiest thing to get funded, and something that the young people can organise around*, 'Oh, there's a struggle going on', *and the money starts flowing.*"[3] This is a situation the politically astute are taking full advantage of.

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[1] **PROJECTS THAT WILL BE CONSIDERED FOR FUNDING WITHIN A GEOGRAPHIC AREA OF INTEREST TO ASCENDANT COPPER WILL BE OF THE FOLLOWING NATURE:**
1) Health and medical assistance.2) Education.3) Women's programs.4) Welfare including assistance to the elderly.5) Infrastructure projects including potable water system, sanitation and the building and/or maintenance of roads and bridges. *050721 CODEGAM Letter (final)*

[2] **NO FUNDS WILL BE USED TO PROMOTE THE FOLLOWING:**
1) To target or persecute any individual or group, including for religious or ethnic beliefs or their opposition to mining.2) To participate in any political events including direct or indirect support of candidates, referendums, or debates.3) To support any activity that could result in threats or abuses being directed at any individual or group.4) That serve to concentrate any investment for any project in the hands of a few rather than for the good of the general public.5) To file any lawsuit or to defend lawsuits which arise as a result of actions of CODEGAM. *050721 CODEGAM Letter (final)*

[3] *051205 Los Cedros JdC Los Cedros*

7.2.4 Corruption

Concerns over the misuse and misappropriation of money are iterated from all sides of the conflict with regard to those in power and to powerful organisations in Ecuador. The corruption within the national land registration agency is alleged by anti-mining informants and corroborated by an ex-*INDA* employee. Allegations are made against Ministers of State being bribed by the extractive industries for their backing of mining projects. The rhetoric of dishonest practices peppers the discourses of the anti-mining claimants as they articulate their experience and interpretation of the conflict dynamic and the power imbalances they are up against.

It is a rarity to come across an example of an exception to this rule of endemic corruption in Ecuadorian organisations, but apparently there is one local government which does not comply and this is the municipality of Cotacachi. An anti-mining informant comments that the pro-mining side is frustrated that there has not yet been an opportunity to influence the local authority's resolutely anti-mining stance. He says *"...that mentality, that corrupt mentality is the basic one you have here, there you have your community leaders as they want to have their fingers in the pot, so its very easy for people to come along and do that; that's the difference with the government that we do have in Cotacachi now, its just like, they are just not like that, and they just hate it [laughs]"*[1]

7.2.5 Legality

My first ideas about this concept came up when I was in the field and it became increasingly clear that there were various approaches being taken to the legal framework of the conflict within which all claim-makers operate, with a range of reasons for the different uses of the law. Legalisation of land titles is a theme which is mentioned by the anti-mining lobby as a strategy that they are finally adopting 8 years into the conflict, in part due to the aggressive land purchasing activities of Ascendant Copper in late 2005 and early 2006 which affected the un-legalised communities *e.g.* Junín, and others. There was overcrowding all week at Ascendant's offices in late November 2005 as community members came to the company's premises in central Quito to sell land parcels at above-market prices[2]. Apparently many transactions took place of titles of ownership that did not exist or had never been formalised at the national land registry offices.

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[1] *051205 Los Cedros JdC Los Cedros*

[2] Surreal scene at brightly-lit Ascendant's office where around 40 Inteños (whole families) crowded among Christmas décor waiting to speak to new General Manager to sell their land *Field Notes 2005-2006*

Even though this appears an extremely weak point in the defence of the area from mining, DECOIN delayed going down this route, although some of the resident expatriates tried hard to prioritise this as a strategic action but were overruled by the Executive Director. DECOIN started work with national environmental law firm and activist organisation ECOLEX in early 2006, after the peak of land sales to the company. This created a significant quantity of legal work as few communities are legalised or have legal titles to their individual land plots. Mistrust of the legal process of land titling in the regional office of INDA is one reason for this. Several people refer to the corruption there including an ex-official of the office who offered free assistance to Junín[1].

Consultation is a theme in its own right, as has been discussed in Chapter 5 above as a theme within one of the main claims of the anti-mining side concerning collective legal rights. In terms of the legal requirement to consult communities, one of the pro-mining group admits that at the start of the conflict there was no consultation, as he says the *"...mining programme supported by the Japanese government people from Mitsubishi, or somebody else, came into the area and started working here. But then, the thing with working in Ecuador, you just go and do your work, you don't have to consult with everyone, you just go ahead, and that, in the whole country, causes a lot of small problems with communities."*[2] Disregard of legal requirements as an acceptable norm and practice in Ecuador appears to be a good enough reason for mining companies to ignore the need for community consultation, although in the Junín case when subject to the scrutiny of the current MEM's EIA officials the law appeared to be enforced requiring the local dissemination of the results of the EIS, if your definition of local means in the parish town and not in any of the communities which would be directly affected.

With regard to the State's duty to monitor ongoing mining activities there is also apparently a lack of compliance with the law where comments from an anti-mining informant include: *"....under the kind of supervision that mining gets here, it's the old fox watching the hen house, we've talked about how things go here."*[3] With these examples I want to highlight a convergence of views and discourses from pro- and anti-mining sides regarding what seem to be accepted practices of law avoidance which render communities powerless in terms of the implementation of the law and enforcement of legal protection by the State.

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[1] An ex-lawyer, ex-land titling agency and ex-Ministry of Energy and Mines man. He is happy to talk to help Junín avoid corrupt officials in the land titling process, to read the Court judgements on the Ascendant Copper permission to mine *etc. Field Notes 2005-2006*

[2] *051220 Syr PJ Quito*

[3] *051205 Los Cedros JdC Los Cedros*

7.2.6 Land

A theme emerged from the data around the situation regarding land ownership as discussed above, formalisation of rural communities, and the rights of property-owners in the context of their enjoyment of land use rights on properties under which the State has given a mining concession. Land ownership is an extremely important issue in this conflict. While certain of the rural communities that fall within the mining concession are legally registered and their lands titled to their owners, there are other communities which are still not registered with *INDA* the national agency for land registration and are currently being assisted with this complex, costly and allegedly often corrupt process by a team of environmental lawyers *ECOLEX* from the capital invited by DECOIN to assist the communities with their legal fight against the mining development.

The mining company, while it owns the concession for the lands, still requires land outside the concession for access purposes and so carried out an active, some might say aggressive, land purchasing programme from June until December 2005 in which it purchased a number of parcels of land from local community members in the area of the concession. This purchasing effort was interrupted on 10th December 2005 by the burning of the company's premises in the village of Chalguayacu Bajo by members of the communities affected by the mining concession demonstrating their position against these land purchases and other activities of the company in the area. The rural communities feel the State has not respected their rights of land ownership, particularly in the community of Barcelona where the most actively anti-mining resident was sent to prison seven times in the past before his eventually successful actions to get their community and 70% of their land titles legally recognised by *INDA*[1]. Cerro Pelado is registered as a community but lacks legal titles to some of the lands which regardless have been sold by agents illegally to the mining company. In this community of 49 families, 9 have sold land parcels to Ascendant Copper[2], causing deep divisions, more than in the Barcelona and Junín together.

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[1] *Field Notes 2005-2006*

[2] The largest are 50 and 40 hectares and the others smaller plots such as 4 or 5 hectares. The first person to sell was the brother of the leading anti-mining family which relocated their family home to live next to and maintain the road block for the community. Apparently this land was sold for a good price, thereafter the other vendors all received much less per hectare. It seems that people here often own several parcels of land some higher up and some lower. It also seems that the company so far only bought land outside the concession which will allow for the construction of a road to the mine, not more. *Field Notes 2005-2006*

DECOIN has been active in supporting the purchase of lands around these communities, using international money from Rainforest Concern, which the communities then own in the form of a Community Ecological Reserve high in the Cordillera. Here there is pure primary forest, one of the few remaining examples I walked through, and the communities collectively manage the area and plan to build some eco-cabins there in the future for the intrepid traveller who will have to be able to walk in up there fully equipped. Family members protect and manage the Reserve on a voluntary basis and patrol it almost daily to prevent the unwelcome intruders who enter the area on occasions which coincide with anti-mining events and meetings. Some local anti-mining people see these incursions as clear evidence of company spies within their communities who pass this information on. There is now a high level of distrust between certain families because of their actions with regard to land sales; while at the same time a greater degree of cooperation has been created through the need for the anti-mining side in all the communities to collaborate in the Community Reserve and share information at all times about visitors to the area and potential threats, which they do continually using Motorolas. There are even disputes over the possession and use of the Motorolas by different members of the same communities which is a further division of communities within the same anti-mining side. This communication device is invaluable for all purposes and seems to be a status symbol among the men working with DECOIN.

7.2.7 Autonomy in decision-making

In terms of how a claim for justice from the *campesinos* being mobilised, the closest articulation of this ideal is to be found in the claims of the anti-mining side made for the recognition of the rights of local people to decide and determine the future forms of development that occur in and near to their farming lands. Justice is seen as an ideal by the rural communities who regard it as a separate issue from their rights. Apparently this is an area of knowledge created in and expanded by training seminars organised by DECOIN and delivered by organisations such as ECOLEX from Quito. As a consequence the focus of the claim-making uses a discourse of collective rights and not justice which has power implications for the international support that may be drawn upon. In terms of whether there a sense of struggle against injustice among local claim-makers I was surprised to find this did not emerge as the dominant theme environmental justice literature suggests from other empirical studies. There is apparently neither a strong sense of injustice instilled in Intag people nor a fluent discourse readily vocalised when I raise the issue with local anti-mining claim-makers as they tend to simply shrug and deny that their actions are an expression of a struggle against injustice or for a just outcome.

7.2.8 Conflict

In terms of the understanding of the nature of the conflict, its roots and the central issues about which it turns for each claim-maker, it appears that the understanding of the nature of the conflict depends on the various claim-makers relative position in the conflict and therefore is understood by informants in a range of ways. Determining factors include their opinion on: firstly, the potential benefits to be accrued, personally, locally and nationally from mining extraction; and secondly, on the value and importance of protection of primary forest, water resources and biodiversity of global significance.

Understanding is also variable and influenced by the way in which they perceive their claim to be positioned in relation to other claim-makers. The roots of the conflict are seen by the mining company in the lack of information and poor communication strategies that it previously employed, coupled with the active information campaign against the mining activities lead by Acción Ecológica and DECOIN in the rural communities where there is now strong anti-mining feeling. Those informants against the mining project see the roots of the conflict as generated – in no order of importance - by the greed of international companies and their shareholders, by the State's role in awarding the concession, by the lack of proper consultation of the local people by the Ministry of Energy and Mines in the granting of the concessions, by the company's land-purchasing programme which has seen each of the communities divided, even families, where one brother has sold some of his land and another brother is totally opposed.

The issues about which the conflict turns for most claim-makers is the trade-off between the natural resources above and below ground and their relative value and worth to either individuals, communities, countries and the world. Thus the biodiversity conservation lobby sees the protection of the cloud-forests in the Intag zone as a responsibility taken on behalf not only of the rural communities, but the global population; and the mining company and its supporters see the importance of the extraction of copper as a metal much in demand on global markets for the production of wires used in all electronic devices from telephone cables to micro switchboards and computer chips. Each claim-maker defines the conflict as variously environmental, social and economic in nature and as a complex combination of all three aspects. The strategies of each claim-maker as they contest their claim reveal the lines along which each defines the conflict and sees as the strongest argument in their interest.

For instance some claim-makers, such as members of the rural *mestizo* communities, see this as a social conflict above all else, others, such as *MEM,* as a conflict about forms of economic development, others, such as DECOIN, as the tension between environmental protection and economic growth, and yet others, such as the Municipality and *AUC,* as a political conflict with huge power imbalances and injustice. The heterogeneity of the claim-making groups is reflected in the extent to which individual claim-makers concur with each of the pro- and anti-mining arguments presented in the earlier section of this chapter. There are subtle differences between each claim-making group. The power of each is determined by the extent to which the voices of particular claim-makers are subsumed or overwhelmed by the mainstream process of polarised argumentation used.

7.3 Impacts of the conflict & claim-making process on 'material practices'

Closely allied to knowledge and discourse in particular are the material practices or "*modifications of surrounding environments*" rooted in the Inteños' natural resource management, agrarian and forestry, and resource extraction approaches, and how these produce changes in Intag's agrarian and forested landscapes. Changes to material practices in Intag's anti-mining population are occurring mainly in the economic spheres because of the need for the important defence that comes from the tangible evidence of the anti-mining rhetoric to be put into practice. Therefore the Executive Director of DECOIN points out in an article for a national journal '*Ecuador Terra Incognita*' (Zorilla 2006) the material practices of the local Intag population have changed, he says "*...se organizaron y generaron alternativas sostenibles de subsistencia: producción de café bajo sombra, impulso del proyecto ecoturístico comunitario de Junín, artesanías elaboradas con materiales de la zona, promoción del comercio justo y un periódico comunitario.*[1]".Knowledge has promoted change in rural community practices; one Junín resident observes before the capacity-building exercises in the community, there was already an awareness of environmental issues, just not a practice, with people littering around their houses and contaminating the river by using it as a toilet, but now this practice has changed, she says[2]. However there are contradictions between the ecologists' identity claims and what they practise, admits one anti-mining informant.[3]

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[1] They have organised themselves and generated sustainable subsistence alternatives: shade-grown coffee, the drive for Junín's community eco-tourism project, handicrafts produced using local materials, promotion of fair trade and a local newspaper.

[2] *051007 Eco-Junin RP1 Junin*

[3] It was a big mistake to claim that people of Junín, Cerro Pelado, Barcelona are 'ecologists' when you look at their practices - non-organic farming of *naranjilla*, cutting and selling timber. There is a contradiction between the use of natural resources and their conservation. *051221 MEM Meeting2 Quito*

In the literature "knowledges" are seen as having material effects (Castree and Braun 2001) when people behave according to the beliefs derived from knowledge. Tangible new material practices include ecotourism, and the organic shade-grown coffee production, but people still use pesticides on *naranjilla*, still log timber and clear primary forest for grazing shown by Figure 16.

Figure 16 Deforestation for grazing on edge of Communal Reserve recorded I walked into Junín on tracks from Cerro Pelado in February 2006

These initiatives which pertain to the economic sphere are occurring as a result of the conflict dynamic, whereby new material practices are realised through the impulses of introduced knowledge *e.g.* environmental education, sustainable development, biodiversity conservation. There are also clear political imperatives to having demonstrable economic alternatives to mining in place, a process which has been supported by international NGOs such as the Japanese Sloth Club. This organisation became actively interested in Intag as supporters of the anti-mining campaign when Mitsubishi was the incumbent mining exploration company in Junín. The Japanese environmental organisation identified and supported the shade-grown organic coffee cooperative, purchasing the high grade coffee beans for export and sale to the Japanese market where it is sold, as in Ecuador, Spain, and Germany, under the Rio Intag brand.

Other NGOs, such as Ayuda en Acción, have supported the elaboration of further alternative economic initiatives such as the organic aloe vera soap and shampoo production workshop in the community of El Rosal. These are demonstration projects, set up with seed corn funding from international and national sources, which illustrate the principles of fair trade, organic production, local sourcing of materials for products, and local, natural materials used as practical packaging for export. These economic activities are the showcase for the municipal Ecological County Ordinance and the AUC's Environmental Committee agenda, setting out to be sustainable forms of development for the Intag zone which will bring lasting social and environmental benefits alongside the economic returns. The material practices of those Inteños actively engaged in the projects have developed through these socio-economic activities which take place within the environmental limits of the region, which have crossed into the domestic sphere through the social relations and institutions created by the dialectical social process as discussed in sections 7.4 and 7.5 below. These are intertwined with the discourse, knowledge and power relations in the region and beyond, and constitute and are constitutive of the entire social dynamic of the conflict and its claim-making process. The material practices of the rural anti-mining claimants go some way towards substantiating the claims being made for economic alternatives to mining. In turn national and international environmental communities and organisations can be convinced of the validity of the sustainable development rhetoric of the municipality its economic viability and be encouraged to give further financial backing. Rainforest Concern UK and other international campaigning organisations gladly use the Intag case to illustrate the success of their work and to fund-raise themselves in turn within the UK and other donor countries. In this way mutual benefits accrue with each level benefiting from successful implementation of projects funded by their fund-raiser and I campaigners, between local and international levels without an intermediary.

Successful economic results also challenge the rhetoric of poverty used as a persuasive claim by the pro-mining side for mining activities to provide the economic benefits they see as greatly lacking until now in Intag. While organisations such as DECOIN decry the use of this claim, and counter it with their own definition of poverty which would only arrive with the onset of large scale mining, there is no denying the political worth of the incremental economic benefits of local environmentally-adapted forms of development. So far the changes to agrarian practices are on a small-scale, and question remains whether the these initiatives in time could provide more social, environmental, and economic benefits across the whole population given to social divides created by the conflict. It is still not known how the advent of large-scale open-cast copper mining would affect all these recent economic initiatives. There have been literal economic spin-offs from the coffee production cooperative of over 40 producer members in Intag. This is in the form of the natural, locally-harvested packing for the 3 types of ground coffee sold in 500g and 1000g amounts. The sourcing of materials from the aloe vera plant, the process of extracting and combing the fibres and spinning them into the yarn is all done by the most active anti-mining family in Barcelona. Dyes made from local plants are used to colour the string, which varies by season, and women throughout the community can weave the bags to their own design in under 20 minutes and sell them to the Rio Intag cooperative for around US$0.80 each (2005). This is a task done at home, alongside all other activities, but is the first work for which women are able to generate an income in dollars which the entire household then benefits from, mainly in payment for school fees and other necessities.

7.4 Impacts of the conflict & claim-making process on 'social relations' and on 'institution-building'

The occurrence of changes in certain Inteños' material practices are closely allied to the inter-relationship of claim-makers within the conflict. These can be analysed through social relations the "*cooperative structures, divisions of labour, social hierarchies of class, race, age, and gender, or differentiated individual or group access to material and symbolic activities and social power...*" (*Harvey 1996*). This is for the purpose of advancing understanding outside the discourses the rural claim-makers employ *e.g.* biodiversity conservation, by considering the extent to which social relations relate to claim-makers' knowledge and power. Within the scope of this research I focus first on the cooperative structures aspect as the strongest aspect of the social process of claim-making in this conflict. In section 6.2.2 and 6.2.3 above I discuss the relationships that developed within the claim-making process and discourse coalitions and alliances that have built up over the duration of the conflict.

Other studies have found causal links between extractive industry activities and "*the social destructuring...and the socio-political void*" found there (Bunker 1985). This is said to be filled by the central state in this case study of Brazil but in other instances is filled by "foreign interests" *(ibid).* In the Intag case a form of 'social destructuring' process has been taking place over the duration of the conflict, as communities divide and families split, as discussed earlier in this chapter in section 7.2.1 concerning social division. At the same time, a re-structuring and re-constructing of the local society has occurred. To analyse this using Harvey's 'moments' of the social process of socio-environmental conflicts, this has manifested in the creation of new "*co-operative structures*" (Harvey 1996), such as new forms of communication and collaboration between anti-mining members of communities *e.g.* Junín, Cerro Pelado and Barcelona. This is evidenced *e.g.* by the hourly Motorola exchanges between community members responsible for monitoring movements within the Intag area and especially any incursions to the community reserve. These communities never had this method of communication until DECOIN purchased the technology for cheap and direct communication across the deep valleys of Intag, and also never had reason to collaborate to this extent in the past. However cooperative structures can be based on unequal positions of power. Between anti-mining groups and individuals there are clear lines of command and deference is paid to certain long-standing expatriates within DECOIN even by current community Presidents over disputes as it seems he has employed them as workers on his property in the past.

Amid pro-mining groups too there are instances of power imbalances *e.g.* between Ascendant and CODEGAM, an organisation it created with the provision of a monthly budget this resource exceeded the local García Moreno Parish Council's at that time by 500%. Its President claimed in a meeting at MEM hat this effectively sidelined the elected Council[1]. Ostensibly the intention was that CODEGAM would facilitate the economic development of the same parish but generates the question of why a new organisation was required to drive the implementation of a particular development vision supported in all senses by the mining company. The issue of the power imbalance between the company as donors of monthly funds and the members of CODEGAM became clear when allocated development funds were siphoned off instead of road infrastructure works being carried out to completion. When Ascendant legally terminated its association with

[1] The President of the Parish Council claimed that at this time CODEGAM had a great influence and greater resources. 051221 MEM Meeting1 Quito First meeting called after the razing of Ascendant's farm and medical centre by Sub-secretary of state with CEO Ascendant Copper, Police, President of Garcia Moreno, and of Chontal, of eco-tourism for Los Manduriacos, manager of Los Cedros, ex-rep of Los Manduriacos, 2 CODEGAM members from Junín and Chalguayacu

CODEGAM, and simultaneously withdrew its financial backing CODEGAM retaliated and switched its political backing for the economic development of Intag through large-scale open-cast mining to supporting efforts of the anti-mining side to block Ascendant's access to the area. It appears that a new power dynamic replaces this previous one, as I note from the company's current website that they are working with another new development organisation with which they have signed an agreement for a future investment programme in the parish of García Moreno.

New *"divisions of labour"* (Harvey 1996) are formed through the conflict, and another aspect of the conflict's dialectical social process, as some women are diversifying their economic activities, sharing certain forms of labour with men as they become enabled for the first time to earn money selling to the domestic and international market. In Barcelona this is by selling the handicrafts they make *e.g.* specially-designed handicrafts woven from yarn made from the aloe vera plants, dyed using natural plant colouring, and which are sold in the women's cooperative in Apuela, in addition to the bags they produce and sell to AACRI to package the shade-grown ground coffee for export. In El Triunfo-La Libertad the women's cooperative has built an immaculate workshop where they make natural aloe vera solid soaps packaged in a single large leaf, shampoo, and other liquid cleaning products, mainly for export markets but also sold in Apuela and in Quito organic health food stores. In Junín and Chalguayacu Alto a group of around 10 women organised a flour-making project, in early 2006. Some of these are the same women who are taking key roles in the management and hospitality at the eco-cabins, for which they are paid directly in US$. Some are female heads of the household whose family survival now relies mainly on this income to pay for their children's secondary education and boarding in Garcia Moreno. In the communities of Magdalena in Los Manduriacos, near an operational gold mine, a long-term Catalan-NGO-funded project created workshops with free workers' childcare facilities. Here form the main workforce manufacturing a range of handicraft products from locally grown loofah.

"Social hierarchies of class, race, age, and gender" (Harvey 1996) are being challenged as new leaders emerge. Most evidence is of more prominent roles for women from the Intag communities mentioned above are now taking an active and vocal part in local political meetings. Allegedly, in a new position of influence, it is also the women who, at the meeting of the Council of the Communities to discuss taking direct action against the land purchasing of Ascendant in late 2005, insisted most strongly on taking the company's farm and medical centre and razing it to the ground, and whose arguments and insistence won, although the prosecutions for this direct action were only for male members of the communities.

The most notorious and hotly pursued by the authorities is a local farmer who has grown into the role of political representative of the Council for the Communities created in 2005 with support from DECOIN. He continues to front the campaign against mining from his home in Chalguayacu Bajo, making broadcasts on national radio, and pictured below going in to a meeting with the Secretary of State for Mining alongside the elected Mayor of Canton Cotacachi, who is himself another example of a breakthrough of Ecuadorian social hierarchies of race and class, after the protest march in 2006.

Figure 17 Caption "On the way to see the Minister of Energy and Mines, Polibio Perez and Mayor Auki Tituana" *Source: DECOIN Website 060716 Anti-mining March to Quito*

Finally, I refer to the "*political and social relations between individuals*" (*ibid*) within the participatory development and environmental policy-making process, which have transformed in different ways through and by the conflict through the 'moment' of institution-building. As the Executive Director of DECOIN points out in an article for the national journal '*Ecuador Terra Incognita*' (Zorilla 2006) in his view this building of new organisations is an outcome of the conflict which he describes as "*uno de los fenómenos mas interesantes ha sido la creación de nuevas organizaciones que comparten una visión de desarrollo basada en la sostenibilidad, la conservación y la solidaridad.*[1]"

[1] One of the most interesting phenomena has been the creation of new organisations with a shared vision of development based on sustainability, conservation and solidarity.

7.5 Synthesis of conflict's impacts on discourse, knowledge and power

This synthesis pulls together the impacts of the conflict on the dialectics of the claim-making process with changes in the discourse, knowledge and power dynamic among other 'moments'. The impacts have been felt across the economic, domestic, social, and political fields where a dialectic change brought about by the impulses of new knowledge emerging from the multi-level social relations and institutions which are born out of the conflict create a response in the form of an additional discourse which translates on the ground into the adaptation of existing material practices which can impact upon the power dynamic of the claim-making process as one side generates tangible social and economic alternatives to mining. This empowers this group of people and in response the pro-mining will generate their own chain of events in the social process which will raise the competitive level of their claims to determine the outcome of the conflict in their favour. The impacts are being felt in all 'moments' of the social process at all times it seems, so as one side takes a certain initiative, communicates a new message to a local or international audience, another side takes a particular action to convey a political point which they feel has not been listened to in any other form. The relationship between organisations or groups on the same side of the conflict also shifts over time as knowledge and practices are development and relative positions of dependency alter *e.g.* between the farming communities as they become empowered by discourses of their legal rights from information given by national and international organisations. This is an interesting dilemma for the access to justice programmes in countries like Ecuador because for the rural communities, the law is both a source of individual and social empowerment but it is also part of the structural problem as it is designed to contain the excesses of the majority and is controlled by the interest of a powerful minority.

The anti-mining discourse takes on a Cartesian duality of before and after mining, of unity and division of the rural communities, of environmental health and desecration, of safety and of crime, and the implications for power is that these cast blame on the mining company and all its supporters as creating this situation of conflict and social disarray compared to the harmonious situation before mining reared its ugly head. Only one of the anti-mining sources directly blamed the State by singling out MEM for bringing mining to Intag, but all other claims are primarily targeted at the companies that come to prospect. In fact the State is culpable for working with foreign government agencies, firstly the British Geological Survey which mapped the country for resources, and secondly with the Japanese International Cooperation Agency which first assessed Intag for mining development as an economic development project for the country. In

terms of selecting your opponents it appears that the anti-mining claimants identify the foreign companies as more vulnerable to their discursive attacks, campaigns and direct action than their own government. Foreign companies with their investors are weaker players in the power stakes than the Ecuadorian government from the perspective of rural communities which are not afforded many rights of self-determination under national law at the most basic level.

The power balance shifted during the short time that I was in the conflict. The pro-mining side at one time was able to take power from the situation whereby each community member seemed to have their price in terms of the purchase of access land to the concession. Community members were able to go out and purchase large 4*4 vehicles to drive around the area (hazardously as the drivers were unschooled in driving and regularly drove off the side of the tracks to roll down the hillside sometimes with casualties and fatalities) and flaunt their new relative wealth to their anti-mining neighbours. The power that money held at this time really showed the weaknesses in community cohesion and solidarity against the mine as many people were unable to resist the temptation to take hard cash at above market prices for parcels of land located outside the concessions and therefore impractically distant from their homes in the communities.

The mining company does not take credit for the social divisions created nor do any of the pro-mining claimants; instead their focus is on the discourse of the bringing of social benefits where apparently before there were few or none. These benefits are tangible entities such as health facilities, experimental farming activities as demonstrable initiatives which the company's shareholders can appreciate are part of the CSR approach being brought to the mining project even at the exploration stage. This discourse of corporate social responsibility is important for the face of the company at all levels, particularly domestically and in investor-based countries.

The anti-mining claimants use the discourse of their strength and determination to fight on until the death if necessary, and use this to unify around. This fighting spirit emerges as a claim from the power struggle of the conflict, complemented by the company's apparently equally unshakeable determination to persist with their claim on mineral exploration rights within the concession areas. Thus the anti-mining claimants use discourses to be on the offensive with claims of strength in unity and unanimity of decision-making as communities, and others to be on the defensive with claims of the destruction of the social fabric of the rural societies right down to individual family levels. Solidarity between the local environmental organisation and the communities is sometimes compromised in order to increase the political representation of the

conflict's main claimants through the portrayal of a discourse of independent communities contesting mining, taking dramatic decisions, being empowered through this process, from which communication strategy the anti-mining lobby hopes to achieve powerful results.

Hand in hand with the discourse of the corrupting powers of money to buy consciences is the criticism of the mining company and pro-mining economic development organisations at the local level for their money flows to influence the outcome of the conflict by investing in initiatives to benefit the community and to inform the local communities about the range of social, economic, and other benefits that mining will bring to Intag. However there is far less criticism of the monies flowing in greater amounts from international organisations to the local environmental organisation, the coffee cooperative, the community nurse, the women's organisation, the soap-making concern, and others. I argue that this money from environmental sources has just as much power to purchase consciences as the money from the mining company; the only difference is how it is used, as the recipients are acting according to different impulses which are largely determined by those giving the money. Rainforest Concern for instance will stipulate that their funding goes to the purchase of primary forests, the Sloth Club will decide their funding is for a community nurse, and yet others will have funding conditions that are attached which will influence the recipients actions, their material practices in some cases, and influence the attractiveness of becoming an ecologist or environmentalist as these identities give access to new economic opportunities for some people who are part of that social network and discourse coalition against mining. Funding for local environmental initiatives has been on stream for nearly a decade now, whereas for the pro-mining groups supported by Ascendant their income only started around 2005 or so.

As an environmentalist myself I do not want to suggest that the purchase of primary forest, or the generation of environmentally-adaptive initiatives is something I am opposed to, far from it. However I do want to demonstrate that logically it is problematic to separate the power of money, funding, investment or whatever you like to call it, from the intention of the funders to thereby influence the outcome of the conflict according to their economic and political interests. The power of money to sway some of the community members is demonstrated above. It is a problem to separate the purchase of these consciences on all sides of the conflict as part of a critique from the anti-mining side of the company's alleged corrupting effects from that of the persuasive powers of pro-conservation organisations interested in funding the Intag case, whose financial support of DECOIN and other initiatives such as the environmental awareness-raising seminars

throughout Intag have had an indisputable impact on the uptake of environmental conservation and biodiversity discourses as narratives in common parlance among the farming communities; this shift in mentality to becoming ecologists coincided with the money for anti-mining organisations flowing in to this side's coffers, albeit in relatively small amounts.

A final point is the acceptance by the anti-mining side of endemic corruption which weakens the rule of law in Ecuador as a redress or recourse of action for vulnerable communities or individuals in terms of their rights to self-determination or at the very least to consultation over decisions affecting their land, livelihoods, and even over re-location of communities. This often voiced resignation to the power imbalance in practice disempowers their claims to legal recognition and collective rights and empowers the pro-mining side by so doing. The dialectic of the process of claim-making means that each single change or shift on one side affects the power balance of the conflict, regardless of the level at which it happens or the origin and nature of the change. The impacts of each 'moment' in the claim-making process is therefore registered somewhere and somehow so that the other side can respond to contest their own set of claims in a dynamic and unceasing process which has its own momentum.

7.6 Conclusion

I can conclude from this chapter's discussions and analysis in relation to my research questions that:

- a number of outstanding themes have come up from the data in terms of the impacts of the conflict and the claim-making process:
  - Social divisions and their polar opposite in social unity around common discourses.
  - Money, and allegations of corruption and bribery.
  - Legality of land, and communities, and accusations of illegal actions, illegal decisions and awards of concessions without due observation of national laws and their requirements for consultation and socialisation of information.
  - Local autonomy in decision-making processes and land-use and economic development policies, and national tensions at the policy level between State ministries with competing interests which are unresolved and manifest in antagonism at the local level.
- The themes of the conflict are inter-related and express the dialectic nature of the conflict as one impact affects all the others and can even create its opposite as a reaction of the flow of power back and forth between opponents in the claim-making process.

- The conflict has had effects on the material practices of rural communities, especially the anti-mining side whose farming and other activities now are aligning with their discursive claims around economic alternatives to mining. However some activists continue to earn their living by environmentally destructive practices such as logging the forest for timber and using fertilisers known to pollute their own potable water supplies in commercial production of *naranjilla*.
- The conflict has seen great impacts in the realm of social relations, and this is perhaps the most tragic element so far. Polarisation around positions against or in favour of the mining project intervention has caused the break down of the social fabric of the Intag zone to an extent which many feel is irreversible.
- Other changes to social relations however have seen the building up of new and different social relations and institutions to support the contestation of the claims according to the needs and interests of the claim-makers. New businesses have built up with international support from funders of the same discursive persuasions as the local anti-mining groups. These projects have generated new forms of employment for both men and women as new divisions of labour are created. They also offer payback to the funders as political capital as they represent successful concrete examples of local economic possibilities in Intag, and tangible alternatives to mining based economic development. As demonstration projects they furnish the international anti-mining and pro-biodiversity conservation discourse coalition with sought-after examples of 'good' or 'best' practice at the grassroots level to be shared around the world in other areas experiencing similar conflicts dynamics.

Chapter 8 Synthesis and Thesis

8.1 Introduction

The purpose of this final chapter is to present: a synthesis of my key findings from the analysis of the case data, under the broad research questions and the central analytical dimensions of knowledge, power, and discourse, and my thesis and conclusions which include a discussion of both the policy implications arising and the key themes defining the emerging agenda for further investigation and recommendations based on my experience and knowledge of relevant methods and tools as to how my methodological approach is applicable to these new fields identified by my research; finally there is a reflection on the theoretical, intellectual, methodological and empirical contributions of my research and some closing words to end this research report.

8.2 Key Findings

The main outcomes of this research project are organised below in relation to the main research themes and what are the central 'moments' of discourse, knowledge and power, in this investigation of socio-environmental conflict, as well as the subsidiary set of social relations, institution-building, and material practices.

8.2.1 Research themes or dimensions

The following headings mirror the preceding analytical chapters and the main research themes. However instead of a reiteration of those syntheses and conclusions I propose, under each broad heading, a reformulation which allows me to demonstrate what I have learned that was unexpected from my data analysis.

Analysing Claim-makers and their claims

Firstly I find that the conflict is caused by the people as claim-makers, not by the natural or mineralised resources. Blaming the resources, their relative scarcity or the importance of their conservation is misplacing the root of the antagonism which arises from competing interests of different socio-economic groups who build political identities to unify fellow claimants around from all levels and locations and articulate their claims using constructed discourses based on development and environmental knowledge, ideologies, and argumentation. The roots of the conflict and socially constructed identities are closely related. Indeed the Intag conflict turns around these constructed social divisions and in the spaces between and within each 'imagined' community, witnessing the weakening of the social fabric in these fissures of the social capital of rural farming livelihoods.

Secondly, social movements such as DECOIN, which is corporatist in that it does not seek to represent the interests of all Inteños but only those who are of the anti-mining persuasion, arise from conflicts over mineralised resources and are the vehicle for the representation of marginalised peoples' voices. These claim-makers direct their demands both to the State and transnational companies, while communicating these same demands to an international audience whose governments and activists organisations can influence the local power dynamic.

Finally, the local anti-mining claim-makers have received certain benefits from the conflict which has provided a unique momentum for environmental education in the rural communities, who are now using introduced ideas, concepts, and language in their anti-mining and pro-mining discourses of development and environmental conservation. This, I contend, is one of the conflict's creative aspects in the form of the impetus for innovative local forms of economic development (shade-grown organic coffee, eco-tourism, natural soap production) for the international market as alternatives to mining activities.

Analysing the Claim-making Process and Discourses

Firstly I find that the legal framework in force during my fieldwork period and until late 2007 serves to encourage rather than avoid or conciliate conflict, by providing legal support for multinational extractive industries to operate in the country without the legal process such as a public inquiry mechanism for local communities in the affected areas to express their concerns or support and openly contest their views. This same mining law in Ecuador reinforces existing power imbalances within society and political decision-making processes at the national level. Not only that, it threatens to destroy one of the world's most important biodiversity hotspots by failing to protect Ecuador's globally significant biodiversity in the interests of the exploitation of mineralised deposits in the ground underneath the cloud forest. This tension between environment and development is inherently politicised, it holds all the social, economic and ecological aspects in juxtaposition with each other. The overlapping model of sustainable development which the mining company proposes as a socially responsible company does not reconcile the equal protection of society, environment, and economic interests here. Nor does national policy hold the answers as the mining and environmental policies are also in conflict with each other. This national governance system fails to provide a political space for the recognition or reconciliation of the interests of all parties equally. Power struggle erupt when these dominant and irreconcilable interests clash as in Intag's case of biodiversity conservation and large-scale open-cast copper mining.

Secondly, the agency of anti-mining groups exists and is given voice through the range of structures which include the national legal system, the international human rights framework, international diplomatic relations, systems of global capital, and the free market economy. These overlapping structures are the confines within which multiscalar political power is exercised by the conflict's institutions and organisations at local to global levels using discursive claim-making to promulgate each claim-maker's array of interests. The degree of convergence of social constructions of nature, or environment or biodiversity conservation or environmental management between actors is highly significant. If State organisations' claims chime with local and international claims then this is a powerful concurrence of interests with the power and resources to implement policies and practices along these lines. Equally, if international NGOs claims strike a chord with national and local NGOs claims then another type of powerful alliance is created, with the ability to challenge State and transnational interests within the claim-making process using constructions of development and environment discourses.

Finally, I find that the discourses used contain little local knowledge and I expected there to be more input from indigenous forms of knowledge particularly in light of the cultural activities going on in the Andean zone of the Canton where the indigenous Mayor has promoted a range of projects based on his ethnic Quechua culture for the people of the communities in the higher reaches of the Andes. I thought that some of this cultural knowledge might have been used by the anti-mining side to make their cultural and environmental claims more distinctive and powerful reasons for mining to be rejected. The only cultural influence from the Quechua identity that its possible to discern does come from the influence of the Mayor and his creation of spaces for discussion and deliberation with direct action as the last resort. This approach was taken by the Council of the Communities until there was a unanimous feeling that physical resistance in the form of seizing and burning down the company's building housing a medical facility was the only way of communicating their objection to the company's active land purchase drive in the preceding months which was seeing many local people sell their land and their allegiance to the pro-mining side. Direct action was then required to redress this shift and reclaim the power.

Analysing the Conflict's Impacts

Firstly, in relation to institution-building, this conflict situation has created new networks, alliances, and organisations, and strengthened those already existing. These are networks of knowledge exchange, alliances between powerful actors in favour of mining, and between less powerful actors against mining, organisations formed around common discourses of development and

environment on both sides, and existing groupings of actors at all levels given new impetus by the conflict and the opportunities for new international sources of funding, and international markets. The conflict has initiated community organisations, and created new local leaders and forms of leadership. I found that it has been responsible for creating new power bases in the rural areas, and for making previously unforged links between the local level and national and international levels of government, governance, and non-governmental organisations.

However, in terms of social relations, the conflict has both consolidated and destroyed rural social capital between leading and active members of the rural communities, along the lines of their positions for and against mining activities in Intag. On the one hand families have been split by siblings either selling land to the mining company or vehemently opposing the company's incursion through land acquisition. On the other hand, new alliances have been created, especially between the anti-mining activists in the Intag area, with leading figures liaising on a daily if not hourly basis by Motorola across the valleys as they monitor and protect their territories.

Secondly, in relation to material practices, the conflict's impacts have been felt in the activities of the rural communities in terms of changes to certain natural resources management practices, though this is not a blanket rule as not all farmers have altered their practices *e.g.* by reducing pesticide application, nor has all harvesting of trees for timber production stopped. Primary forest continues to be cleared on a small scale by some farmers on their lands for grazing cattle, as I witnessed during my numerous hikes between the rural communities through beautiful deeply forested valleys, while at the same time their neighbours vigilantly guard against intrusions to the Communal Reserves by pro-mining groups and Ascendants' employees. I find that in analysing the data it seems to always be necessary to qualify each statement I make of positive changes in material practices. This applies too to the claim-makers who are in favour of mining development. Thus, in a shift from the violent approach of their previous incumbents, the new management of the mining company during my fieldwork 2005-2006 adopted only those practices which comply with international 'best practice' for exploration technologies and for corporate social responsibility, and furthermore set out to introduce locally-sensitive programmes of health, education, and infrastructure in their plans for the development of a mining-based economy in the Intag area.

Finally, it appears that extractive industries, even at pre-operational stages, are enough to produce power imbalances and highlight the lack of local political power to easily stop a mining project's progress if the local communities and authorities are not in favour. These local opposing groups do have the power to frustrate the process and delay the inevitable but in so doing the social fabric of the area is torn to shreds in the process of contestation of opposing interests through the claim-making process. The impacts have been felt across the economic, domestic, social, and political fields where a dialectic change, brought about by the impulses of new knowledge or in response to the opposition's use of a new claim, means that the other side re-formulates or newly creates another claim which empowers their discursive claim above others.

8.2.2 The 'moments' of discourse, power, and knowledge

There is the need to relate some of the existing theory to the findings in the analytical domains of the discourse, power and knowledge dialectic in this section and again I draw on examples which illustrate aspects of the findings which did not concur with my initial expectations of the data which are supported by some of the selected literature reviewed in earlier sections.

Firstly, In the Intag case the anti-mining claim-makers' knowledge of biodiversity conservation is invariably inflected with the biases of the knower, the international and national environmental activists and campaigning organisations. Therefore it only represents a particular, socially constituted discourse of environmental protection and management and explains the emphasis of the original opposition to mining. It is an example of a bias-inflected situated understanding which reflects and constitutes the social interests of the less powerful economic groups in Latin American society and is used against wider class interests of the most powerful groups in Western and non-Western societies. Analogous to the commercial process of 'brand-identity' creation for the marketing and sale of a particular product-line, the construction of the *minero* and *ecologista* brands has served to swell the ranks of claim-makers on different sides of the conflict. This is also a nod to the work in recent cultural studies and cultural anthropology literature (Alvarez, Dagnino et al. 1998; Pottier, Bicker et al. 2003) in relation to both politics of culture in social movements in Latin America and the negotiation of local knowledge in power and identity-building processes. Foucault's view of power as multi point and not place based but fluid in nature is demonstrated well in this multiscalar conflict where power is obtained from knowledge coming up from the local level and down from the global plane in a continuous flow.

Indeed Giddens argues that power relations are reciprocal and certainly in this conflict the contestation of claims is made autonomously but dependent on the discourses constructed from knowledge which arrives from levels above. However some of the conflict's power relations are bidirectional which is seen in the degrees of autonomy and dependence within the claim-making process. This is shown by the company's power to buy and appropriate land and apparently the will of some local people to lend their support to the mining project, but at the same time they are dependent on the cooperation and winning over of a critical mass of the local populous as money alone does not seem to be enough to ever convince the most resolute ecologists to change their minds or sell their land. With enough of the anti-mining claim-makers active in Intag then the company is still threatened with their local strategies of resistance and direct action in opposition to mining interventions which are backed up by powerful international connections and media profile.

Secondly, my findings support Martinez-Alier, who argues that the struggle for resources brings the poor to defend their resources, and sometimes their conservation in what he calls the "ecology of the poor" is evidenced in the Intag case. Here, although Inteños of the pro-conservation persuasion deny they are poor and use a claim based on the riches that they are living among and the abundance that nature provides them with in Intag, their relative poverty and dependence on natural resources for their livelihoods is one reason for defending their conservation in a conflation of social, ecological, and economic interests to preserve their very livelihoods. Thus, as in Braun and Castree's configuration of social nature, so in this conflict yes, nature is social and defined accordingly to serve specific but not always dominant social interests. Instead the environment and biodiversity are constructed as vital parts of the self-identification of the weaker claim-making groups and individuals to serve their interests in preserving their existing livelihoods which depend on conserving the cloud forest and the agricultural land they have cleared in the valleys.

Finally, the dialectical discourse, power, and knowledge dynamic is a significant aspect to understand when handling socio-environmental conflict. In this case it is important to identify the link to the multi-scalar dimensions of economic development through the routes of extractive industry and environmental conservation and management. This is a political ecology analysis as this socio-environmental conflict is a problem of broader economic and political capitalist forces which are perpetuating the political and socio-environmental inequalities in Intag through state intervention in local decision-making over the local forms of economic development. State

support is for foreign mining projects which bring local social and environmental externalities as a burden on local people and environmental services but with proportionately very little local benefits and a great deal to loose. These multiscalar connections affect the structure and agency relationship dynamic as well. One of the clear themes to emerge from this research is the importance of the context provided by the multiscalar dimensions of conflicts of this kind. There exist different perceptions of how natural resource management, biodiversity conservation, and mineral extraction all function as micro- and macro-level economic activities; and how connections and tensions between micro and macro level economic development and environmental policies see their expression in the manifestation of socio-environmental conflict at the local as well as national and international level *i.e. multi-scalar analysis*. This is exemplified in President Correa's approach to the extraction of mineralised resources in Ecuador's areas of high biodiversity as expressed in his July 2007 invitation to the international community to pay Ecuador 50% of the value of the estimated oil reserves under the Yasuní National Park as a form of compensation for protection of the biodiversity there and recognition of its significance as a global resource. Thus national energy and mining policy and its conflict with biodiversity conservation is presented as not just a local problem but a challenge in Ecuadorian, Andean and global terms in the context of economic development and ecological values attached to areas of high biodiversity. There is the need to resolve the contradictions that currently exist in local policy, national strategies and the global conventions.

8.3 Thesis

I contend that conflict arising from the contestation of mineral resource extraction rights over biodiversity conservation and livelihoods interests serves as a trigger for widespread political and material changes to existing socio-environmental processes on local to global levels which manifest in forms of discourse, knowledge and power as well as structure-agency tensions. What perhaps in the past were regarded as local socio-environmental conflicts are so no longer. The local impacts are felt on all levels and in all domains, political, economic, social and environmental.

The phenomenon of socio-environmental conflict is a consistent theme in development planning, whether in so-called developing or developed country contexts. By analysing the conflict through the construction of discourses and their use by different groups in the claim-making process this research has shown how the relative power positions can be altered.

However it is not sufficient to consider the discourses as verbal tools and the impacts of the discursive mechanisms alone, but important to assess the ways in which their use in the claim-making process is seen within the wider analytical framework. This entails changes to the material practices of some claim-makers in reflection of the new knowledge gained, beliefs established, and in order to demonstrate their commitment to the claims they make. It sees the creation of new institutions and organisations and the transformation and strengthening of those already in existence in order to alter the structure within which critical decisions are made by creating new levels of participatory decision-making at the grassroots level. This is reflected in the consequent weakening of the total power and autonomy of state level institutions in the face of influence from international organisations promoting the interests of local level groups.

The transformation of social relations as civil society in the rural areas is restructured along the lines of position in the conflict as interested individuals and groups align themselves in what can be called discourse coalitions. Effects are seen both in the fissures in the existing social fabric and establishment of deep bonds across communities. These are multiscalar in nature where strong links are made through shared discourses and alliances are formed to consolidate power and knowledge in order to contest their position in the claim-making process. These discourse coalitions have their advantages in this conflict for the anti-mining side in particular as the anti-mining and pro-biodiversity conservation discursive alliance has made links between North and South and opened up funding opportunities, lines of information, and created knowledge and power through communication.

I contend that the socio-environmental conflict in Intag is responsible for both the creativity and destruction of each 'moment' of the process of claim-making as a great deal of energy is expended on all sides to perpetuate the process until arriving at the point where one claim-making interest secures their desired outcome, either stopping or starting mining activities there through winning the struggle which is ultimately fuelled by the contention for political power to determine the decision-making process indisputably in their favour. The conflict and its dialectic moments are mutually-reinforcing, with a self perpetuating momentum which is at the same time creative and destructive of all dimensions of the social process of claim-making.

8.4 Conclusion

8.4.1 Policy implications arising

In this section I discuss environment and development policy implications on the conflict's different levels *i.e.* for Intag, other mining areas, and for development planning issues per se, focussing on the key aspects which I think are useful for any policy makers in this area across the globe.

Firstly, the development planning policy approach in Intag requires a spatial component which will map out the conflict area and allow clear zoning of different land uses. This can use existing geospatial data collected recently for the Cantón through a project lead by the University of Georgia (USA) and the Catholic University of Quito with the local authority. While living in Cotacachi institutional links were made between former Geoinformatics graduate students working as civilians at the *IGM* in Quito and the municipality of Cotacachi to further this project using these national geospatial data experts with interests in the social and environmental application of the digital geographic data sets under military control. Local government in Ecuador currently enjoys a greater level of autonomy and central government funding than before due to the decentralisation legislation which has increased the competencies of municipalities. Policy measures are required to continue to strengthen capacity in natural resource management and conflict mitigation in government at all levels and in civil society. This is an opportunity to design and promote measures to reduce and better manage risk in rural livelihood systems in Ecuador, as well as countries sharing the same prospect, to develop coherent integrated strategies for agro-pastoral and forestry-based livelihood development. In procedural terms, a Corporate Social Responsibility approach needs introducing to the ex-ante stage to involve local communities in full partnership at the planning stage with respect for the outcome of a democratic and more equally balanced power sharing arrangement for decision-making at the local level.

Secondly, at the national level, from the legal and institutional perspective, there is a need for reform in the policy areas of economic development through mining, to remove unnecessary procedural and corruption-based rural land tenure registration processes, and to promote natural resource management which maintains productivity and reduces conflict. There is a need to integrate policy objectives of economic development and environmental management, particularly in the field of biodiversity conservation at the national level where conflicts must be resolved rather than at the local level. In addition an independent national-level mechanism is required as

an institutional arrangement for equitable and sustainable natural resource management; this needs to organise groups around their interests and rights, to mediate discussions and negotiate outcomes before conflicts manifest within the communities at the local level. There is the need to propose a framework that can build on existing partnerships to achieve the inclusion and mainstreaming of socio-environmental conflict issues in national sectoral development plans and to promote environmental governance as prerequisite inclusions in their implementation process. Also, in-depth knowledge and understanding of the political and social dynamics as they relate to land issues, environment and natural resource management issues, and mining issues is required as the basis for integrated policy making at all levels.

Thirdly, there is a need to resolve identifiable institutional constraints to equitable local development while increasing awareness of local level capacity to resolve conflicts, using research and information gathering, training and capacity-building, and advocacy. This can operate at national and local levels, with the focus on capacity-building, policy harmonisation, and advocacy for local decision-making and environmentally-sensitive economic development legislation. The State needs to work with national NGOs, CSOs, and international NGO implementing partners with projects in target areas where conflict has escalated in the past decade over mining. Resource-based conflict needs to be recognised as a source of poverty and risk to rural and urban communities in mineral-rich countries such as Ecuador and her Andean neighbours and conflict mitigation measures reflected in policy and legislation. There is an opportunity for the restoration of peace and the creation of the social contract between the State and society in Intag, if there are concerted efforts to deal with the issue of conflict mitigation, or prevention in other cases, and the creation of enabling political and social spaces in which conflict can be dealt with effectively before it scales up. There needs to be recognition of the number of claim-makers involved in resource-based conflicts with varying approaches and degrees of coordination and communication. There is a gap to fill by developing the mechanism for a shared management of local resources approach wherein access to and benefits from those assets is collectively pooled in such a way to improve local livelihoods and rights.

Finally, the critical role of mining in the development of the national economy is highly contested. The State position is fractured, even within the Ministry for Energy and Mines; despite their generally blinkered view which fails to recognise existing and alternative forms of economic activity in mining concession areas. Until the election of President Correa there was a decade of a clear legal presumption in favour of mining development over all alternative and existing land

uses and this caused conflicts as this was not a negotiated outcome. In the summer 2007 Correa approved a preliminary reform to the mining law as part of a wider process of review of the sector. My research found that there is the need for more transparent and participatory approaches to deciding priorities which considers the environmental and other rights of rural and urban communities in proximity to mineralised resources. In 2007 the Correa government opened up a review of the whole Constitution and the formation of a Constituent Assembly and in early 2008 the majority of mining concessions were declared null and void due to the mining law under which they were awarded becoming regarded as unconstitutional. There remain ambiguities however, with the President on the one hand revoking many foreign-owned concessions and inviting the international community to pay compensation to Ecuador for the loss of revenue from unexploited mineralised resources by protecting her highly biodiverse areas as a global resource, and on the other hand still using rhetoric of mining's role in bringing the country out of international debt and poverty. This fundamental contradiction remains unresolved, yet it must be addressed through the political decision-making system, through the newly created national popular assembly which has the opportunity to rewrite the constitution and influence changes in mining laws as well as other key policy areas to resolve conflicts at the national level and avoid local level conflicts.

8.4.2 Agenda for further fields of investigation

These are the fields of knowledge that still need looking into, and in the section immediately below I link these field of investigation to recommended relevant methods drawn from my current research experience. Here I have selected just a couple of areas to elaborate further which I consider to be the most interesting and challenging to investigate:

Firstly, I go to the role of the (Catholic) Church in the production of discourse, power and knowledge within the claim-making process. The role of the Church, which is of the Catholic denomination in Intag, rather what in Latin America is called 'Evangelical' from the Protestant denomination, in this conflict is far from consistent except in the sense that it is a constant presence in the background. At the start of the conflict, an employee of the Church who was working in Intag when Mitsubishi arrived in the mid-1990s was the instigator of DECOIN as a civil society organisation opposed to mining, an act for which he was allegedly sent off as penance to Cuba and now works in Colombia. His brother works for the AUC in the capacity of coordinator of the Environment Committee. The priest for the area during my fieldwork told me informally that he tried to steer a neutral course but his congregation numbers were being affected by the conflict in

the various communities he visits in turn, with minority-view holders staying away from the services.

As I left at the end of my fieldwork I heard off the record that the Catholic Church was in discussion with the pro-mining side regarding their potential intervention to calm the level of conflict in Intag in order that work could proceed with the mining concession. Clearly the role of religious organisations within conflict is a highly contentious issue to research, but in terms of the historically powerful role that the Catholic Church has played, alongside the State, in the conquest and development of Latin America, it is an extremely interesting field to examine further, using a dialectic approach to understand the social process of claim-making in which such an influential player is taking part. In today's context I am interested in the apparent recent tendency of Catholicism towards environmentalism with the Vatican taking the lead under the German papacy, influenced by more environmentally-minded German Catholics. This field of investigation is therefore multiscalar in nature in terms of the loci of power, and the chief question for me is whether and how this is leading to what I would call a form of 'liberation eco-theology' as opposed to Peet and Watts book on liberation ecology which is itself a reference back to the liberation theology of Latin American priests against authoritarian regimes. I see that in the Intag case the role and position of the Church varies between local, national, and global levels, and there is the need to explore how it takes different sides in the conflict at each level and how this power dynamic operates and the political tensions it creates.

A second area is the acceptance or rejection of large-scale mining by whole communities, without the apparent fissures created in Intag, as referred to above. In relation to this earlier discussion of the cultivation of a 'mining culture' in Ecuador I would ask about the socio-economic history of the area, people's knowledge, discourses, the power dynamic, decision-making processes, the legacy of mining, the application of Corporate Social Responsibility approaches by the mining company and the Social Programme components on offer, how and whether a socio-environmental conflict has been avoided, or mitigated, the pre-conditions for mining to become a socially acceptable form of development like in Bolivia, Perú and Colombia. In Ecuador, in Chaucha, the reason for apparent 'cultural' acceptance is not clear, which makes this an interesting case study for further investigation along the lines of this current research to understand the dialectical social process leading to this alleged universal degree of receptiveness. Empirical data from the Intag study corroborates other studies which show that any community is far from homogeneous.

A third area which I see as meriting investigation is that of the discursive construction of the environmental problems as public problems. It seems to be another interesting angle from which to examine this and other socio-environmental conflicts where the interpretation of the narrative account of environmental destruction which represents a social construction of the reality requires unpacking for further understanding.

Finally, the role of the extractive industries sector in reducing inequality and the funding of universalism in pensions, healthcare and potential of capital transfers is another area for investigation. In Intag apparently the law requires copper mining company to pay 25% of its declared profits to the competent authority at the local level, hence the secessionist movements to separate Intag from the Canton of Cotacachi. There is a need for the political legitimacy of extractive industries which have such negative impacts, with the dislocation of communities, and the destruction of the environment, both irreversible and largely immitigable.

To study the fields of investigation described above I would recommend using the qualitative data analysis methodology already tested in my Intag fieldwork where relevant and timely to do so using ethnographic methods and tools, and also the computer assisted qualitative data analysis software – NVivo - which allows the fast retrieval and interrogation of coded data sets such as interview transcripts, and secondary data sources, as well as multimedia data sources such as video recordings.

8.4.3 Reflection on contributions of the research

In terms of the intellectual, empirical, theoretical, and methodological contributions of this modest thesis project, this thesis has made a 4-fold contribution: firstly intellectually by demonstration of new ways of looking at the discourse, knowledge and power dialectic within the claim-making process; secondly through the empirical study of the Intag case which has built knowledge in addition to existing studies; thirdly in terms of theoretical output through the theorising from a political ecology perspective on the dialectic social process of claim-making within a copper mining and biodiversity extraction conflict; and finally *also* a fine-tuned methodological approach as a complementary part of the scientific research concerning tools and methods and their use appropriate to the research questions. This qualitative methodological work is at the core of my approach and a defensible approach of eclectic pragmatism which is the unique methodological offering to development planning research in terms of a fresh paradigm and new tools to be applied to the research problematic that is central to a thesis.

8.5 Closing words

The forcible removal of rural people from their land is in some ways a historical re-enactment of the colonial land occupation of European settlers evicting ethnically indigenous peoples of Latin America. This fresh struggle for valuable mineralised resources in Latin America is now being played out between global companies and the ethnically mestizo communities whose ancestry is partly indigenous and partly that of the first colonial occupiers of Indian land in the Americas. In light of the historic power imbalances experienced and created through the colonial project in this region, it is a tragedy that the likelihood is that this imbalance will only be perpetuated if Ecuador follows other neighbouring Andean countries and develops her mineralised resources under pressure from other nations and economic pressures. If it is indeed true that all other things being equal, booming extractive industries make inequality greater (Whitehead 2007) then the disempowerment of pro-conservationist rural groups and interests could worsen and further intractable conflicts arise with all their associated social, environmental and material ills.

At the very least, in an effort to avoid this situation States and governments have the imperative to resolve the internal policy contradictions which give rise to socio-environmental conflicts arising where mining concessions are being awarded in natural areas of high biodiversity. Given that in 2005 primary forest covered 17% of Ecuador's total land area with a high rate of coincidence with identified mineralised resources the Intag case is not going to be a one-off. Mining and environmental policies will be in opposition again, and competing visions of the economic future of Ecuador's rural communities will equally be in tension. Given that the experience of exploitative industries can be especially negative, I have a certain degree of sympathy with those who argue for retaining minerals underground until we have the social and political systems in place for sensible extraction and equitable distribution within a framework of ecological democracy as a new paradigm of natural and mineral resource management.

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Appendices

Environmental Regulation of Ecuador for Mining Activities, 1997

Es REGLAMENTO AMBIENTAL DE ACTIVIDADES MINERAS.

Decreto Ejecutivo 625, Registro Oficial 151 de 12 de Septiembre de 1997.

FABIAN ALARCON RIVERA PRESIDENTE CONSTITUCIONAL INTERINO DE LA REPUBLICA

Considerando:

Que la Sección VI que trata "Del Medio Ambiente", de la codificación de la Constitución Política de la República del Ecuador, publicada en el Registro Oficial No. 2, de 13 de febrero de 1997, en su Art. 44 dispone: "El Estado protege el derecho de la población a vivir en un ambiente sano y ecológicamente equilibrado, que garantice un desarrollo sustentable", por lo que se declara de interés público y que se regulará conforme a la Ley:

"a) La preservación del medio ambiente, la conservación de los ecosistemas, la biodiversidad y la integridad del patrimonio genético del país;

"b) La prevención de la contaminación ambiental, la explotación sustentable de los recursos naturales y los requisitos que deban cumplir las actividades públicas y privadas que puedan afectar al medio ambiente, ...";

Que la Ley de Minería No. 126, en su Art. 4, declara de utilidad pública la actividad minera en todas sus fases; y que el Capítulo II del Título V de dicha Ley establece las obligaciones de los titulares mineros respecto de la preservación del ambiente;

Que el numeral 17 de las Políticas Básicas Ambientales del Ecuador, promulgadas mediante Decreto Ejecutivo No. 1802, publicados en el Registro Oficial No. 456 del 7 de junio de 1994, establece que se dará especial atención a todas las actividades mineras para evitar la contaminación ambiental originada por ellas;

Que es necesario contar con un Reglamento específico que permita la adecuada aplicación de las normas ambientales contenidas en la Ley de Minería No. 126; y,

En ejercicio de la facultad que le confiere la letra c) del artículo 103 de la Codificación de la Constitución Política de la República y la Primera Disposición Final de la Ley de Minería No. 126.

Decreta: El siguiente: REGLAMENTO AMBIENTAL PARA ACTIVIDADES MINERAS EN LA REPUBLICA DEL ECUADOR

CAPITULO I DEL AMBITO DE APLICACION Y OBJETO

Art. 1.- Actividad minera sustentable.- La actividad minera sustentable, de utilidad pública e interés nacional prioritario, está regulada por las disposiciones establecidas en los Arts. 44 y 159 de la Constitución Política de la República del Ecuador; en la Ley de Minería y su Reglamento General; en las Políticas Básicas Ambientales del Ecuador, y en el presente Reglamento.

Art. 2.- Ambito de aplicación.- El presente Reglamento regula, en todo el territorio nacional, la gestión ambiental en las actividades mineras en sus fases de exploración inicial y avanzada, explotación, beneficio, fundición, refinación y comercialización; así como también en las actividades de cierre de labores, con el fin de prevenir, controlar, mitigar, rehabilitar y compensar los impactos ambientales negativos derivados de tales actividades en todo el territorio nacional.

Art. 3.- Objeto.- El presente Reglamento tiene por objeto promover el desarrollo sustentable de la minería en el Ecuador, a través del establecimiento de normas y procesos para prevenir, controlar, mitigar, rehabilitar y compensar los efectos que las actividades mineras puedan tener sobre el medio ambiente y la sociedad.

CAPITULO II DE LA ADMINISTRACION AMBIENTAL MINERA

Art. 4.- Administración de procedimientos.- El control de la gestión ambiental en las actividades mineras corresponde al Ministerio de Energía y Minas, por intermedio de la Subsecretaría de Protección Ambiental, la Dirección Nacional de Protección Ambiental, la Subsecretaría de Minas, la Dirección Nacional de Minería y sus Direcciones Regionales de Minería.

El Ministerio del Medio Ambiente, coordinará y supervisará los esfuerzos relacionados con la protección del medio ambiente en la aplicación del presente Reglamento, dentro del ámbito de su competencia, de acuerdo con las disposiciones que se contienen en el Decreto Ejecutivo No. 195-A, de 4 de octubre de 1996, publicado en el Registro Oficial No. 40 de la misma fecha, y en concordancia con lo previsto en su estructura orgánico - funcional.

Art. 5.- Subsecretaría de Protección Ambiental.- Corresponde a la Subsecretaría de Protección Ambiental del Ministerio de Energía y Minas, a través de la Dirección Nacional de Protección Ambiental:

a) Verificar el cumplimiento de las disposiciones del presente Reglamento;

b) Aprobar los programas, presupuestos y los estudios ambientales;

c) Calificar los daños causados al sistema ecológico;

d) Practicar controles ambientales y disponer el cumplimiento de las medidas contempladas en el plan de manejo ambiental aprobado;

e) Recomendar a los organismos competentes la aplicación de las sanciones contempladas en la Ley de Minería; y,

f) Todas las demás previstas en el presente Reglamento.

La Subsecretaría de Protección Ambiental del Ministerio de Energía y Minas, se encargará de la coordinación con los organismos del Estado y los gobiernos seccionales que tengan relación con la protección ambiental en la actividad minera y, de manera especial, con el Instituto Ecuatoriano Forestal de Áreas Naturales y Vida Silvestre INEFAN y el Instituto Nacional de Patrimonio Cultural INPC, en la formulación y ejecución de políticas, resoluciones o convenios, referentes al control ambiental de las actividades mineras que se desarrollen en zonas del Patrimonio Forestal del Estado y Bosques y Vegetación Protectores y zonas de interés para el Patrimonio Cultural, respectivamente.

Art. 6.- Subsecretaría de Minas.- La Subsecretaría de Minas del Ministerio de Energía y Minas, por intermedio de la Dirección Nacional de Minería y sus Direcciones Regionales, supervisará la administración de los procesos de otorgamiento, conservación y extinción de derechos mineros, coordinando acciones con la Subsecretaría de Protección Ambiental del Ministerio de Energía y Minas para la aplicación del presente Reglamento.

Las Direcciones Regionales de Minería, por intermedio de la Dirección Nacional de Minería, en forma inmediata al otorgamiento de los títulos de derechos mineros, informarán del particular a la Subsecretaría de Protección Ambiental del Ministerio de Energía y Minas, para los fines establecidos en el presente Reglamento.

Art. 7.- Acceso a informes.- Los titulares de derechos mineros y cualquier otra persona natural o jurídica, podrán acceder a una copia de los estudios ambientales, así como también de los informes que presenten ante la administración ambiental minera, los funcionarios que hayan realizado supervisiones, inspecciones, u otras actividades de control ambiental. Tal copia deberá solicitarse por escrito, justificando la necesidad del requerimiento y se otorgará a costa y bajo responsabilidad del peticionario, por el uso que se dé a dicho documento, respetando en todo caso el derecho de autor del consultor ambiental minero.

Art. 8.- Programas y presupuestos.- Los titulares de derechos mineros deberán presentar a la Subsecretaría de Protección Ambiental del Ministerio de Energía y Minas, para su aprobación, el programa anual de actividades referentes al plan de manejo ambiental, en la

parte que corresponda a cada etapa del proyecto y los respectivos presupuestos ambientales, hasta el 31 de enero de cada año.

Art. 9.- Garantías.- Para asegurar el cumplimiento de las actividades previstas en los planes de manejo ambiental, el Estado ecuatoriano, a través de la Subsecretaría de Protección Ambiental del Ministerio de Energía y Minas, exigirá a los titulares de derechos mineros que presenten una garantía de fiel cumplimiento, mediante una póliza de seguros o garantía bancaria, incondicional, irrevocable y de cobro inmediato a favor del Ministerio de Energía y Minas, la que deberá mantenerse vigente y actualizarse hasta el completo cierre de operaciones del área y por un año posterior a la finalización del período de vigencia de las concesiones.

Esta garantía corresponderá al monto total del presupuesto ambiental, aprobado por la Subsecretaría de Protección Ambiental.

En caso de hacerse efectiva la garantía, los recursos provenientes de la misma serán destinados por la antes indicada Subsecretaría en forma exclusiva, para actividades de prevención, control, mitigación, rehabilitación y compensación en el área materia de la titularidad minera respectiva. Su ejecución será coordinada por la Dirección Nacional de Protección Ambiental de dicha Subsecretaría.

CAPITULO III ESTUDIOS AMBIENTALES

Art. 10.- Clasificación.- Para los fines establecidos en la Ley de Minería y el presente Reglamento, los estudios orientados a una gestión ambientalmente adecuada de la actividad minera, que están obligados a presentar los titulares de derechos mineros y las entidades del sector público que realicen actividades mineras, a la Subsecretaría de Protección Ambiental del Ministerio de Energía y Minas, por intermedio de las Direcciones Regionales de Minería de la correspondiente jurisdicción, se clasifican en:

a) Evaluación Preliminar de Impacto Ambiental;

b) Evaluación de Impacto Ambiental; y,

c) Auditoria Ambiental.

Art. 11.- Evaluación Preliminar de Impacto Ambiental.- La Evaluación Preliminar de Impacto Ambiental se presentará:

a) De manera previa a la autorización del Instituto Ecuatoriano Forestal de Áreas Naturales y Vida Silvestre INEFAN para actividades mineras en áreas del Patrimonio

Forestal del Estado y Bosques y Vegetación Protectores, y será requisito previo al otorgamiento del título minero respectivo; y,

b) De manera previa a las actividades iniciales de exploración, y una vez que se cuente con el respectivo título minero.

La Evaluación Preliminar de Impacto Ambiental será elaborada en base al instructivo correspondiente que consta el Anexo de este Reglamento y deberá presentarse dentro del plazo de noventa días, contados a partir de la fecha de vigencia del título. El documento que contenga la Evaluación se someterá a la aprobación de la Subsecretaría de Protección Ambiental del Ministerio de Energía y Minas, previo al inicio de las actividades mineras antes mencionadas.

Art. 12.- Evaluación de Impacto Ambiental.- Este estudio deberá identificar, describir y valorar, de la manera más apropiada y en función de las particularidades de cada caso concreto, los efectos notables previsibles que la ejecución del proyecto minero producirá sobre los distintos aspectos ambientales.

La Evaluación de Impacto Ambiental incluirá además el correspondiente plan de manejo ambiental, que contemple acciones requeridas para prevenir, mitigar, controlar, compensar y corregir los posibles efectos o impactos ambientales negativos, o maximizar los impactos positivos causados en el desarrollo de la actividad minera. El plan de manejo ambiental comprenderá también aspectos de seguimiento, evaluación, monitoreo, y los de contingencia y cierre de operaciones, con sus respectivos programas y presupuestos.

Se deberá presentar una Evaluación de Impacto Ambiental previo al inicio de las actividades avanzadas de exploración, labores mineras de explotación, beneficio, fundición y refinación.

El titular de derechos mineros preparará la Evaluación de Impacto Ambiental, de acuerdo con el instructivo correspondiente al que se refiere el Anexo de este Reglamento. El documento que contenga la Evaluación se someterá a la aprobación de la Subsecretaría de Protección Ambiental del Ministerio de Energía y Minas, previo al inicio de las actividades mineras antes mencionadas.

Art. 13.- Auditoria Ambiental.- Los titulares de derechos mineros que realicen actividades de exploración, explotación, beneficio, fundición y refinación, presentarán a la Subsecretaría de Protección Ambiental del Ministerio de Energía y Minas, cada año a partir de la vigencia del título minero, y hasta su vencimiento, una Auditoria Ambiental, con la finalidad de que esta dependencia conozca y analice el cumplimiento del plan de

manejo ambiental y de las obligaciones dispuestas en la normatividad vigente, para su correspondiente aprobación u observación.

Seis meses antes de que la autoridad minera dicte la resolución respecto del cierre de operaciones, los titulares de derechos mineros presentarán la correspondiente Auditoria Ambiental.

La Auditoria Ambiental, al igual que los demás estudios de este tipo, será realizada de acuerdo con el instructivo correspondiente que consta en el Anexo de este Reglamento.

Art. 14.- Ampliación de estudios.- Si posteriormente a la aprobación de los estudios ambientales el desarrollo de las actividades del proyecto minero requiriera incrementar las actividades de exploración, ampliar su capacidad productiva, no prevista originalmente para el caso de explotación, o realizar cambios tecnológicos, los titulares de derechos mineros deberán presentar oportunamente, para aprobación de la Subsecretaría de Protección Ambiental del Ministerio de Energía y Minas, estudios de evaluación de impactos ambientales ampliatorios.

Las actividades adicionales que se describan en estos estudios de evaluación de impactos ambientales ampliatorios solo se iniciarán una vez que estos sean aprobados por la Subsecretaría de Protección Ambiental del Ministerio de Energía y Minas.
Nota: Inciso segundo reformado por Numeral 135. de Decreto Ejecutivo No. 1665, publicado en Registro Oficial 341 de 25 de Mayo del 2004.

Art. 15.- Programa de difusión.- Todas las evaluaciones de impacto y auditorías ambientales contemplarán un programa específico de difusión de su contenido: alcance del proyecto, impactos potenciales y medidas de prevención y control de impactos ambientales y su cumplimiento, destinado a las autoridades y pobladores asentados en el área de influencia del proyecto. Este programa será conocido y supervisado por la Subsecretaría de Protección Ambiental del Ministerio de Energía y Minas.

Los programas de difusión que corresponden a los titulares de derechos mineros deberán darse a conocer a las autoridades y pobladores asentados en el área de influencia del proyecto, antes del inicio de las operaciones mineras y a su costa.

Art. 16.- Aprobaciones de los estudios y programas ambientales y ampliación de plazos.- Una vez que los titulares de derechos mineros presenten los correspondientes estudios y programas ambientales, la Subsecretaría de Protección Ambiental del Ministerio de Energía y Minas, en el plazo de cuarenta y cinco días posteriores a la

recepción del estudio en dicha dependencia, lo analizará y verificará, de ser necesario, mediante una inspección técnica; y notificará la aprobación u observaciones que haya merecido el estudio, para que en el caso de formularse estas últimas, el titular de derechos mineros presente, en un plazo no mayor a cuarenta y cinco días, los justificativos o alcances necesarios hasta la aprobación final.

Solo en casos de fuerza mayor o caso fortuito debidamente justificados ante dicha Subsecretaría de Protección Ambiental, será admitido el diferimiento en la presentación de estudios, justificativos y alcances, por iguales lapsos que los indicados en el inciso anterior.

La aprobación de los estudios ambientales requeridos para actividades mineras en áreas del Patrimonio Forestal del Estado y Bosques y Vegetación Protectores corresponderá a la Subsecretaría de Protección Ambiental del Ministerio de Energía y Minas, previo informe del Instituto Ecuatoriano Forestal de Áreas Naturales y Vida Silvestre INEFAN que establezca las observaciones y recomendaciones que se incorporarán antes de su aprobación.

Sin perjuicio de lo anterior, para fines de aprobación de estudios y programas ambientales, podrá actuarse de acuerdo a lo dispuesto en el Art. 30 de la Ley de Modernización del Estado, Privatizaciones y Prestación de Servicios Públicos por Parte de la Iniciativa Privada, y Art. 73 del Estatuto de Régimen Jurídico Administrativo de la Función Ejecutiva, contándose con la intervención de entidades u órganos de la administración pública, o centros universitarios o politécnicos, dotados de la suficiente capacidad técnica.

Nota: Inciso segundo reformado por Numeral 135. de Decreto Ejecutivo No. 1665, publicado en Registro Oficial 341 de 25 de Mayo del 2004.

Art. 17.- Costos, procedimientos y metodologías.- La ejecución de los estudios ambientales se realizará a costa del titular minero, y se utilizarán procedimientos y metodologías actualizados e internacionalmente aceptados en la industria minera.

El titular de derechos mineros podrá incluir en los estudios ambientales, una o más concesiones siempre y cuando se hallen dentro de una misma cuenca hidrográfica, con similares características geológicas, mineras, metalogénicas y bioecológicas, y dentro de una misma área de influencia.

Art. 18.- Consultores ambientales mineros.- Los estudios ambientales serán elaborados y suscritos por consultores ambientales mineros, sean estos personas naturales o jurídicas, legalmente inscritos, tanto en el Registro de Consultoría previsto

por la Ley de Consultoría y su Reglamento, como en el Registro de Consultores Ambientales Mineros de la Subsecretaría de Protección Ambiental del Ministerio de Energía y Minas. Las personas naturales que mantuvieren relación de dependencia con el Estado no podrán ejercer actividades en calidad de consultores ambientales mineros.

CAPITULO IV NORMAS AMBIENTALES PARA ACTIVIDADES MINERAS EN AREAS DEL PATRIMONIO FORESTAL DEL ESTADO Y BOSQUES Y VEGETACION PROTECTORES

Art. 19.- Autorización previa del Instituto Ecuatoriano Forestal de Áreas Naturales y Vida Silvestre INEFAN.- Para fines de aplicación de las disposiciones pertinentes de la Ley de Minería, el Instituto Ecuatoriano Forestal de Áreas Naturales y Vida Silvestre INEFAN, por intermedio de la Comisión Especial de Autorizaciones para Concesiones Mineras en Áreas del Patrimonio Forestal del Estado y Bosques y Vegetación Protectores, a conformarse por el Directorio de dicho Instituto, otorgará las autorizaciones que servirán para que las Direcciones Regionales de Minería procedan a otorgar títulos de concesiones mineras dentro de las áreas señaladas que constituyen parte del Patrimonio Forestal del Estado y Bosques y Vegetación Protectores.

La Comisión Especial de Autorizaciones para Concesiones Mineras en Áreas del Patrimonio Forestal del Estado y Bosques y Vegetación Protectores deberá emitir su pronunciamiento en base a la Evaluación Preliminar de Impacto Ambiental que se presente con el fin de obtener autorización para realizar actividades mineras dentro del Patrimonio Forestal del Estado y Bosques y Vegetación Protectores, en el término de sesenta días, contados a partir de su presentación. En caso de no emitirse tal pronunciamiento en el lapso indicado, se entenderá como favorable y procederá el otorgamiento de los títulos respectivos por parte del Director Regional de Minería competente.

De manera previa al inicio de operaciones, el titular minero presentará para su aprobación por parte de la Subsecretaría de Protección Ambiental del Ministerio de Energía y Minas la Evaluación Preliminar del Impacto Ambiental, referida en el inciso anterior.

No se autorizarán actividades mineras dentro del Patrimonio Nacional de Áreas Naturales Protegidas.

Art. 20.- Actividad minera en áreas de Patrimonio Forestal del Estado y Bosque y Vegetación Protectores.- En toda actividad minera en áreas del Patrimonio Forestal del Estado y Bosque y Vegetación Protectores se observarán las disposiciones que para la construcción de obras físicas, construcción de accesos, disposición de desechos y en general,

para cualquier acción relacionada con alguna de sus fases, se señalen en los planes de manejo ambiental, en los criterios establecidos en este Reglamento y en otros cuerpos legales pertinentes tales como las leyes: Forestal y de Conservación de Áreas Naturales y Vida Silvestre; de Minería; de Aguas; de Prevención y Control de la Contaminación; y sus reglamentos. Su cumplimiento será analizado y evaluado por la Subsecretaría de Protección Ambiental del Ministerio de Energía y Minas, en coordinación con el Instituto Ecuatoriano Forestal de Áreas Naturales y Vida Silvestre INEFAN.

Art. 21.- Protección de la biodiversidad.- La conservación y protección de la diversidad biológica es primordial y fundamental en el desarrollo y ejecución de las actividades mineras en el país, particularmente cuando estas se desarrollen en Áreas del Patrimonio Forestal del Estado y Bosques y Vegetación Protectores.

La violación de estas normas acarreará las sanciones administrativas, civiles y penales correspondientes.

La Subsecretaría de Protección Ambiental del Ministerio de Energía y Minas, en coordinación con el Instituto Ecuatoriano Forestal de Áreas Naturales y Vida Silvestre INEFAN, ejercerá el control y monitoreo permanente del cumplimiento por parte de los titulares de derechos mineros de las disposiciones comprendidas en este Reglamento, cuando la actividad minera tengan lugar en áreas del Patrimonio Forestal del Estado y Bosques y Vegetación Protectores.

CAPITULO V DERECHOS DE TITULARES MINEROS

Art. 22.- Derecho real y exclusivo.- El Estado garantiza a los concesionarios mineros que hayan cumplido las disposiciones que constan en la Ley de Minería, su Reglamento General, el presente Reglamento Ambiental y el Título respectivo, la plena vigencia de su derecho real y exclusivo a explorar, explotar, beneficiar, fundir, refinar y comercializar todas las sustancias minerales que obtengan dentro de sus concesiones.

Igual garantía favorecerá a los titulares de autorizaciones para la instalación y operación de plantas de beneficio, fundición y refinación.

Los derechos mineros otorgados por el Estado, con anterioridad a declaratorias de áreas de Patrimonio Forestal del Estado y Bosques y Vegetación Protectores subsistirán respecto de tales declaratorias. Las actividades mineras posteriores en tales áreas se sujetarán a las disposiciones del presente Reglamento.

Art. 23.- Amparo administrativo.- Los actos y hechos que devengan de internaciones, despojos, invasiones, a las que se refiere el Art. 62 de la Ley de Minería y produzcan afecciones al ambiente, también constituyen formas de perturbación que impiden el ejercicio de las actividades mineras y fundamento para la proposición de demandas de amparo administrativo.

También constituyen fundamento para las demandas de amparo administrativo o solicitud de actos cautelares, establecidos en el Art. 63 de la Ley de Minería, las perturbaciones consistentes en afecciones al ambiente producidas por los propietarios de la tierra en que se encuentren las concesiones, posesionarios o terceros cuyas actividades sean diferentes a las que desarrollen los titulares de derechos mineros.

Art. 24. - Deducciones.- Los titulares de derechos mineros, con sujeción a las disposiciones contenidas en el Art. 154 de la Ley de Minería, letras a), d) y e), tendrán derecho a deducir del ingreso bruto con fines tributarios los costos y gastos relativos a la preservación y restauración del ambiente; las primas de seguros que cubran riesgos de contaminación ambiental y las contribuciones en favor de los trabajadores, para capacitación ambiental

CAPITULO VI OBLIGACIONES DE LOS TITULARES MINEROS

Art. 25.- Empleo de métodos y tecnologías.- Los concesionarios mineros están obligados a realizar sus actividades de exploración, explotación, beneficio, fundición y refinación empleando métodos que minimicen o eliminen los daños al suelo, al agua, al aire, a la biota y a las concesiones y poblaciones colindantes.

Art. 26.- Presentación de los estudios ambientales.- Los titulares de derechos mineros deberán presentar los estudios ambientales a la Subsecretaría de Protección Ambiental del Ministerio de Energía y Minas, por intermedio de las Direcciones Regionales de Minería de la correspondiente jurisdicción, observando las disposiciones pertinentes de la Ley de Minería; de su Reglamento General, y las del presente Reglamento, además de las que obren en los respectivos títulos.

La presentación de documentos públicos o privados por parte de los titulares de derechos mineros, de acuerdo con las disposiciones del presente Reglamento, releva a los mismos de la entrega de otros ejemplares para el caso de trámites análogos o nuevos. Sin embargo, dichos titulares están obligados a mencionar en sus solicitudes o comunicaciones, el expediente o trámite en el cual obran tales documentos.

Art. 27.- Cumplimiento de obligaciones.- Los titulares de derechos mineros serán solidariamente responsables de la ejecución de los planes de manejo ambiental y están obligados a cumplir los términos de dichos planes y las normas ambientales vigentes, de la Ley de Minería, el presente Reglamento y la correspondiente legislación ambiental del país, aplicable al sector minero.

De igual manera, deberán aplicar en las actividades mineras el principio de precaución, según el cual, la falta de evidencia científica no puede constituir justificativo para no adoptar medidas preventivas, cuando se presuma que hay posible daño ambiental.

Los titulares de derechos mineros quedan exentos de responsabilidades respecto de daños ambientales generados con anterioridad al otorgamiento del título respectivo o que se hubieran originado fuera del área materia de la concesión, o por otras actividades ajenas a las labores mineras.

Art. 28.- Capacitación ambiental.- Los titulares de derechos mineros están obligados a mantener programas de información, capacitación y concientización ambiental permanentes de su personal a todo nivel, para incentivar acciones que minimicen el deterioro ambiental.

El plan de manejo ambiental determinará las formas cómo el concesionario minero entrenará y capacitará a sus trabajadores, de acuerdo con lo establecido en el Art. 78 de la Ley de Minería, a fin de que estos se instruyan en temas referentes a la gestión ambiental minera del proyecto, con el propósito de que toda la operación se enmarque en lo establecido en este Reglamento Ambiental. Se prestará especial atención al mantenimiento de relaciones armónicas de los trabajadores con las comunidades.

La planificación y ejecución de dichos programas deberá ser comunicada anualmente, por intermedio de las Direcciones Regionales de Minería de la correspondiente jurisdicción, a la Subsecretaría de Protección Ambiental del Ministerio de Energía y Minas, que la supervisará.

Art. 29.- Medidas especiales de protección.- Los titulares de derechos mineros están obligados a adoptar las siguientes medidas especiales que constarán en los respectivos planes de manejo ambiental:

a) De la biodiversidad.- Los titulares de derechos mineros están obligados a establecer en los contratos que celebren con sus trabajadores o terceros, estipulaciones por las que se obliguen a proteger y minimizar las afectaciones a la biodiversidad.

Aparte del marco jurídico que ofrecen las leyes y reglamentos vigentes en la materia, tales como las leyes: Forestal y de Conservación de Áreas Naturales y Vida Silvestre; de Minería; de Aguas; de Prevención y Control de la Contaminación; y sus reglamentos; las

Normas para la Utilización de Mercurio en la Actividad Minera; y, finalmente, el Convenio de Diversidad Biológica, serán norma fundamental para las actividades mineras, los estudios ambientales previstos en el Capítulo III de este Reglamento, en los que se analizarán las principales características de la diversidad biológica del área; y sus planes de manejo en donde se indicará el conjunto de medidas necesarias para la protección de la diversidad biológica en las áreas de actividad minera.

b) De las especies silvestres.- En el desarrollo de las diferentes fases de la actividad minera se prohíbe terminantemente la captura, o acoso directo intencional de especies silvestres, animales y vegetales.

En el plan de manejo ambiental se señalarán las posibles afectaciones a las especies silvestres y se establecerán las correspondientes medidas de prevención, control y mitigación.

c) Del patrimonio cultural.- Sin perjuicio de lo dispuesto en la Ley de Minería que prohíbe la actividad minera en áreas arqueológicas, si durante la ejecución de labores mineras se estableciera, en el área de actividad, la presencia de vestigios del patrimonio cultural del país, el titular minero deberá suspender sus actividades en el área en la que exista dicha presencia y deberá informar del particular a la administración ambiental minera y al Instituto Nacional de Patrimonio Cultural INPC, a fin de que dichas autoridades procedan a la delimitación del área que quedará excluida de la operación minera.

Cuando las actividades mineras tengan lugar en áreas señaladas por los estudios ambientales como de alto valor cultural, el titular de derechos mineros desarrollará sus actividades de manera tal que estas no afecten la integridad de dichas áreas, para lo cual, en el correspondiente estudio ambiental se precisarán medidas adecuadas de prevención, control y rehabilitación.

Igual procedimiento se adoptará para casos de áreas de alto valor turístico.

d) De la población local.- Toda actividad minera tendrá, como uno de sus objetivos fundamentales, la protección de los habitantes y comunidades locales, o de aquellas que por su ubicación sean susceptibles de impactos ambientales directos e indirectos. Para el efecto, el titular de derechos mineros desarrollará su actividad observando lo dispuesto en las leyes y reglamentos pertinentes.

Se promoverá la consulta y participación de las poblaciones locales, en calidad de ejecutores y beneficiarios de proyectos ambientales destinados a la reducción del impacto ambiental de las actividades mineras.

La Subsecretaría de Protección Ambiental coordinará con el titular de derechos mineros la realización de reuniones públicas, en las que participarán las poblaciones locales, con el fin de escuchar problemas y proponer soluciones, acerca de los avances y resultados de los estudios ambientales y del cumplimiento de sus planes de manejo.

Sin perjuicio de las acciones legales correspondientes y con el propósito de buscar la solución a los problemas ocasionados por el impacto ambiental de la actividad minera, la Subsecretaría de Protección Ambiental del Ministerio de Energía y Minas investigará, analizará y evaluará las denuncias presentadas por personas naturales o jurídicas; y procederá a comunicar del particular a los titulares de derechos mineros a fin de que den solución a tales problemas, o buscará soluciones administrativas. Una vez investigadas las denuncias presentadas y en caso de resultar fundamentadas, solicitará la aplicación de las sanciones administrativas, civiles o penales que fueran del caso.

Para la ejecución del control ambiental minero que deben realizar los funcionarios del Estado, los titulares de derechos mineros o quienes actúen en su representación, les brindarán las facilidades necesarias.

Art. 30.- Protección de la salud de los trabajadores.- Con el propósito de evitar impactos negativos sobre la salud de los trabajadores en actividades mineras, la Subsecretaría de Protección Ambiental del Ministerio de Energía y Minas, velará por la aplicación de parte de los titulares de derechos mineros del Reglamento de Seguridad Minera y del Reglamento de Seguridad y Salud de los Trabajadores y Mejoramiento del Medio Ambiente del Trabajo.

Asimismo, las actividades que desarrollen los titulares de derechos mineros deberán enmarcarse en lo establecido en los convenios internacionales ratificados por la República del Ecuador, para la protección de la salud de los trabajadores en actividades mineras.

Art. 31.- Manejo de desechos biodegradables.- El vertido, disposición y tratamiento de los desechos biodegradables se lo realizará en rellenos sanitarios controlados, siempre sobre terrenos impermeabilizados y alejados de los cursos de agua, y de conformidad con los procedimientos establecidos en los reglamentos respectivos de la Ley de Prevención y Control de la Contaminación Ambiental. Una vez concluidos los trabajos o cuando se haya cubierto su capacidad, dichos rellenos serán clausurados y sellados adecuadamente y reacondicionada su capa superficial.

Se deberá contar con sistemas de tratamiento de efluentes de aguas residuales. La calidad que deberán tener estos efluentes antes de ser descargados en el medio natural será la que señala el Reglamento respectivo a la Ley de Prevención y Control de la Contaminación Ambiental.

Art. 32.- Manejo de desechos no biodegradables y residuos peligrosos.- Todos los desechos sólidos y líquidos no biodegradables que se deriven de las labores de minería, deberán ser recuperados y transportados en recipientes herméticos fuera del área del proyecto, para su tratamiento y disposición final, de conformidad con lo señalado en los reglamentos respectivos a la Ley de Prevención y Control de la Contaminación.

Los residuos peligrosos provenientes de combustibles, aceites, grasas o cualquier otro producto químico, también deberán ser recuperados y transportados en recipientes herméticos fuera del lugar de la operación para su disposición final, en centros de acopio, según lo propuesto en el plan de manejo ambiental.

Art. 33.- Manejo de combustibles.- Para la operación y mantenimiento de equipos y maquinaria que requieran combustibles fósiles, el almacenamiento de estos deberá hacérselo en envases adecuados, los que se localizarán en áreas que no impliquen ningún riesgo para la seguridad ni para la salud de los trabajadores, de la población en general, ni para la naturaleza circundante.

Los tanques o recipientes para combustibles, se construirán bajo la norma API - 650, deberán mantenerse herméticamente cerrados a nivel del suelo y estar aislados mediante un material impermeable, y rodeados de un cubeto, técnicamente diseñado para el efecto, con un volumen igual al 110% del tanque mayor.

Art. 34.- Límites permisibles.- Conforme se dispone en este Reglamento, y para garantizar la calidad del aire, suelos y aguas superficiales y subterráneas, los concesionarios mineros planificarán y ejecutarán el desarrollo de sus actividades acatando estrictamente lo establecido en los Reglamentos a la Ley de Prevención y Control de la Contaminación Ambiental, que establecen las normas de calidad del agua, suelo, ruido, aire, y de disposición de desechos sólidos.

CAPITULO VII NORMAS AMBIENTALES APLICABLES EN ACTIVIDADES DE EXPLORACION

Art. 35.- Construcción de accesos y/o trochas para actividades de geofísica.- Cuando se requiera en la fase de exploración la construcción de accesos y/o trochas para el desarrollo de actividades geofísicas, su ancho normal será de hasta 1,5 metros. Se removerá la vegetación estrictamente necesaria, y en sitios susceptibles a la erosión, toda la madera y el material vegetal provenientes del desbroce y limpieza del terreno serán técnicamente procesados y reincorporados a la capa vegetal. Tanto la vegetación cortada como el material removido, en ningún caso, serán depositados en drenajes naturales.

Art. 36.- Construcción de caminos y/o carreteras.- Los análisis y evaluación ambiental de las diferentes alternativas de los caminos y/o carreteras serán presentados en los respectivos estudios de evaluación de impactos ambientales. La construcción de caminos y/o carreteras necesarios para realizar actividades exploratorias dentro de una concesión minera, se realizará con un ancho no mayor a seis metros. En su construcción se ejecutarán todas las obras previstas para evitar afectaciones al sistema natural de drenaje. Queda prohibido obstaculizar los cursos de agua existentes con el material removido.

No se permitirá botar lateralmente el material removido por estas construcciones cuando se realicen dentro de las áreas pertenecientes al Patrimonio Forestal del Estado y Bosques y Vegetación Protectores, así como en áreas ambientalmente sensibles establecidas en el plan de manejo ambiental. El material de corte deberá ser dispuesto en botaderos predeterminados.

Art. 37.- Construcción de helipuertos.- Para la construcción de helipuertos se elegirá el sitio que ofrezca las mejores condiciones operacionales. No se construirán helipuertos en zonas críticas tales como lugares de asentamientos humanos, así como en sitios de reproducción, nidificación, desove y/o alimentación de fauna; manglares, ríos (a excepción de bancos), esteros, humedales, lagunas y sitios arqueológicos.

El área destinada para este fin no podrá ser en ningún caso mayor a 2.500 metros cuadrados, en la cual no se removerá la capa de suelo vegetal. El tipo de helicópteros y las técnicas de acarreo de carga que se utilicen serán aquellos que produzcan la menor afectación al entorno.

Art. 38.- Campamentos.- Para el albergue del personal que labore en concesiones mineras, se construirán campamentos diseñados de tal forma que cumplan con los Arts. 66 y 85 de la Ley de Minería. Se utilizarán materiales prefabricados y se contará con letrinas sanitarias y pozos sépticos para la disposición adecuada de aguas negras, de acuerdo a la reglamentación vigente.

Art. 39.- Limpieza o destape de afloramientos.- La limpieza o destape de afloramientos, con la finalidad de tener acceso a información sobre las características geológicas del posible depósito mineral, se realizará en una superficie no mayor al tamaño del afloramiento.

Art. 40.- Ejecución de pozos, trincheras y perforaciones.- En base a consideraciones técnicas se determinará el número y profundidad de pozos, trincheras y perforaciones, que permitan el acceso a la información requerida; una vez cumplido el objetivo de obtener información geológica, geotécnica, geoquímica o metalúrgica para definir el cuerpo

mineralizado, los pozos, trincheras y plataformas de perforación deberán ser rehabilitados procurando mantener la estructura original del sustrato de manera que garantice la revegetación del suelo, a menos que sean requeridos para futuras labores de exploración o vayan a formar parte de la actividad de explotación.

Art. 41.- Construcción de galerías.- Cuando fuere necesaria la construcción de galerías, se actuará de acuerdo con lo dispuesto en el Art. 51 de este Reglamento.

Art. 42.- Pruebas de producción.- Para las pruebas de producción se utilizarán plantas piloto de fácil transportación (telescópicas) y sus afluentes serán recolectados a fin de darles un tratamiento y disposición final similares a los que se establecen en este Reglamento para las actividades de explotación.

Art. 43.- Remoción de obras y rehabilitación.- En caso de que los resultados obtenidos en la fase de exploración, no justificaren el paso a la fase de explotación, todas las obras físicas deberán ser removidas y todos los destapes, pozos, trincheras, lugares de sondajes, caminos y otros, deberán ser rehabilitados de conformidad con lo establecido en los estudios ambientales correspondientes.

CAPITULO VIII NORMAS AMBIENTALES APLICABLES EN ACTIVIDADES DE EXPLOTACION Y TRATAMIENTO DE MINERALES

Art. 44.- Construcción de campamentos.- Las construcciones para oficinas, viviendas y servicios, se ubicarán en una superficie elegida especialmente para este fin, observando lo previsto en los artículos 66 y 85 de la Ley de Minería.

Las edificaciones contarán con todos los servicios básicos tales como agua potable, o agua tratada adecuadamente, energía eléctrica y servicios médicos, de conformidad con lo dispuesto en el Reglamento de Seguridad Minera, promulgado mediante Decreto Ejecutivo No. 3934 de fecha 20 de junio de 1996, publicado en el Registro Oficial No. 999 del 30 de julio del mismo año.

Art. 45.- Construcción de carreteras y/o caminos de acceso.- En lo posible, se utilizarán las carreteras y/o caminos construidos para la fase de exploración, con las adecuaciones que se consideren necesarias.

Para la construcción de carreteras y/o caminos de acceso nuevos, se planificará adecuadamente el diseño, ubicación y construcción de estos, cuyo impacto ambiental y las respectivas medidas de mitigación deberán ser incluidos en el estudio ambiental, con el correspondiente análisis y evaluación de las alternativas para su trazado.

Art. 46.- Desbroce de vegetación.- El desbroce de vegetación para la instalación de obras de infraestructura o para la preparación de los frentes de explotación, estará estrictamente limitado a la superficie requerida en base a consideraciones técnicas y ambientales determinadas en los estudios ambientales.

Art. 47.- Instalación de infraestructura, equipos, maquinarias y servicios.- El área de producción industrial - que comprende las instalaciones minero productivas - estará ubicada, conforme se establezca en el estudio ambiental, de tal forma que esta no cause efectos nocivos por la generación de polvo, gases, ruido, vibraciones, y otros factores contaminantes. La ubicación e instalación de maquinarias y equipos permanentes se la hará sobre plataformas o pisos de concreto.

Las emisiones a la atmósfera que produzcan los motores de maquinarias y equipos no deberán exceder los límites permisibles establecidos en el Reglamento respectivo a la Ley de Prevención y Control de la Contaminación Ambiental.

Esta área industrial estará dotada de un sistema general de recolección y drenaje de aguas lluvias; y los correspondientes sistemas puntuales de recolección y tratamiento para los efluentes que se generen en el proceso. La calidad que deberán tener estos afluentes, antes de ser descargados en el medio natural, será la señalada en el Reglamento respectivo a la Ley de Prevención y Control de la Contaminación Ambiental.

Toda la superficie que comprenda la instalación de los equipos para el tratamiento y beneficio mineral deberá ser afirmada y contemplará un sistema adecuado de drenaje para recuperación y recolección de líquidos, para su posterior tratamiento y adecuada disposición.

La ubicación del patio de maniobras y mantenimiento de equipos será justificada en el estudio ambiental, su superficie deberá ser plana y estar afirmada. Dicho patio contará tanto con un sistema de recolección y drenaje de aguas lluvias, como de sistemas adecuados de recolección y tratamiento de residuos peligrosos.

Art. 48.- Elección y preparación del sitio para escombreras.- El material estéril producido deberá ser depositado en escombreras que estarán ubicadas en superficies convenientemente alejadas de todo tipo de infraestructura y de áreas industriales. Esta distancia estará determinada en el respectivo estudio ambiental.

Para su ubicación será necesario presentar el análisis de riesgo de desprendimiento, deslizamiento o hundimiento de los materiales, y su ubicación se realizará en base a la selección de la alternativa menos impactante, o en un área de sacrificio que ofrezca seguridad y que sea poco visible.

No se ubicarán estas escombreras en sitios que favorezcan la erosión, el deslizamiento de los materiales depositados, ni en lugares que obstaculicen o contaminen los drenajes naturales, o que afecten las fuentes subterráneas de agua.

Una vez agotada su capacidad, se procederá a colocar sobre ellas una capa de suelo vegetal para su revegetación y rehabilitación.

Art. 49.- Preparación de los frentes de explotación.- El diseño y operación de los bancos para la explotación de minerales metálicos y no metálicos a cielo abierto, se hará de acuerdo con las disposiciones pertinentes del Reglamento de Seguridad Minera.

Se deberán diseñar las obras necesarias para el control de las aguas de escorrentía, capaces de impedir el ingreso de éstas al área de explotación y depósitos de estériles. De esta manera se impedirá la contaminación de los cursos de agua, y se evitarán los esfuerzos generados por el agua en los bancos y taludes de explotación.

Se construirán pantallas visuales con el suelo estéril extraído, con el sembrío de especies de rápido crecimiento, para la ocultación visual del área de explotación, así como para lograr el apantallamiento sónico para enfrentar los ruidos producidos en esta fase.

El punto de ataque de explotación de la mina deberá ser escogido de tal manera que permita la ocultación visual desde los diferentes puntos de observación, así como su reacondicionamiento progresivo y paralelo de acuerdo al avance de ésta.

Se evitará la contaminación por polvo generado en las vías por el tráfico vehicular, desde y hasta los frentes de explotación, mediante la aspersión de agua, el afirmado de las vías utilizando material estéril, o mediante cualquier otro método que estará definido y aprobado en el respectivo plan de manejo ambiental.

Art. 50.- Arranque del mineral.- Cuando se utilicen explosivos en el arranque del material, se determinará técnicamente la carga adecuada, de tal forma que no se produzcan ruidos ni vibraciones fuera de los límites permisibles establecidos en el Reglamento respectivo a la Ley de Prevención y Control de la Contaminación Ambiental, que puedan afectar tanto a la salud de los trabajadores, como de la población, y a la infraestructura localizada en el área de influencia del proyecto.

Art. 51.- Galerías, voladuras, ventilación y transporte.- Para el desarrollo de galerías, perforación y voladuras, ventilación, transporte y demás labores de explotación, se estará a lo dispuesto en el Reglamento de Seguridad Minera.

El adecuado manejo ambiental de las labores mencionadas será técnicamente sustentados en los respectivos estudios ambientales.

Art. 52.- Placeres y lavaderos.- En el diseño y operación de la explotación de placeres y lavaderos, se emplearán técnicas que garanticen la conservación del curso natural de los drenajes, e impidan la alteración de estos mediante un adecuado control de los sedimentos.

En el desarrollo de la explotación de placeres y lavaderos se deberá evitar que se produzcan afectaciones a las viviendas de pobladores, a las obras de infraestructura, al riego de unidades productivas, al agua para consumo humano.

Para la explotación de las terrazas se diseñarán métodos técnicos que garanticen la conservación del curso natural de los drenajes, impidiendo la alteración de éstos.

Art. 53.- Sedimentos.- En la explotación de placeres y lavaderos se evitará contaminar los cuerpos de agua, por exceso de sedimentos, a través de una planificación apropiada de las operaciones, tanto de extracción de material, como de vertido de desechos, y de barrido de fondo, de tal forma que no se profundicen o modifiquen los canales de los cuerpos de agua, ni se ahonden los humedales o las áreas costaneras.

Art. 54.- Uso de productos y residuos peligrosos.- Está prohibido contaminar los cuerpos de agua, por derrame de combustibles, aceites nuevos y usados, grasas o cualquier otro producto químico que se utilice en el proceso.

Art. 55.- Captación de agua.- Los titulares de derechos mineros que con la autorización requerida capten aguas de cuerpos hídricos superficiales o subterráneos, para utilizarlas en sus labores, deberán devolverlas a un cauce natural superficial, en las condiciones establecidas en el plan de manejo ambiental.

Art. 56.- Explotación en lechos de ríos.- En la explotación de materiales pétreos, arena, grava, entre otros, en los lechos de los ríos, se deberá observar lo establecido en este Reglamento para la explotación de placeres y lavaderos y captación de agua.

Art. 57.- Explotación de canteras.- La explotación de materiales de construcción en minas o macizos rocosos se la realizará a cielo abierto (canteras), y se tendrá especial cuidado en mitigar convenientemente los impactos de ruido, vibraciones y polvo, para no afectar a los trabajadores, pobladores e infraestructura existente alrededor de la cantera. Para esto se emplearán diseños técnicos de voladura y se rociará con agua las vías de acceso a los frentes de explotación. Asimismo, se construirán cortinas o barreras vegetales para amortiguar los impactos y para ocultar temporalmente la afectación del paisaje, el que será rehabilitado antes del cierre de operaciones total de la cantera.

Las tecnologías y procedimientos técnicos utilizados en la explotación de canteras y demás proyectos mineros realizados a cielo abierto, deberán garantizar que después del cierre de operaciones mineras, el área del proyecto sea reacondicionada.

Se procederá al modelado de taludes, con el objeto de conseguir perfiles geotécnicamente estables e integrados a la morfología del entorno y que, además, faciliten el reacondicionamiento e implantación de la vegetación.

Estas disposiciones se aplicarán sin perjuicio de las que, mediante ordenanza, establezca la municipalidad en cuya jurisdicción se encuentre la cantera.

Art. 58.- Ruido y gases.- Se dará un permanente y adecuado mantenimiento a las maquinarias y equipos, para garantizar su eficiente operación y disminuir el ruido y emisión de gases, de conformidad con lo dispuesto en el Reglamento de Seguridad Minera y en los reglamentos a la Ley de Prevención y Control de la Contaminación.

Se evitará la utilización de maquinarias y equipos usados, provenientes de otras operaciones, cuya tecnología pueda contribuir al deterioro de la calidad ambiental del proyecto.

Art. 59.- Ubicación de la planta de beneficio.- El sitio elegido para la instalación de la planta de tratamiento y beneficio con propósitos productivos deberá estar a una distancia adecuada de la bocamina, y del área de viviendas y oficinas administrativas, conforme lo determine el estudio ambiental.

Art. 60.- Localización y construcción de depósitos de relaves.- Para la construcción de piscinas o depósitos de relaves, se elegirán sitios técnicamente recomendables, con topografía favorable y a desnivel, fuera de áreas en las que se haya detectado fallas sísmicas, o la existencia de corrientes subterráneas de agua. Las piscinas o depósitos de relaves deberán tener suficiente capacidad de almacenamiento para poder captar y sedimentar los relaves en ellos depositados, de tal forma que no se produzcan rebosamientos a los drenajes naturales.

En el diseño de estos depósitos se considerará la construcción de obras civiles que impidan el ingreso de otras fuentes de agua, ajenas al proceso industrial.

La superficie interior de estos depósitos deberá ser impermeable, o se deberá buscar este efecto por métodos artificiales, para evitar la contaminación de acuíferos subterráneos. Dependiendo de los resultados de los estudios ambientales se emplearán métodos de recirculación de las aguas en el proceso de beneficio, o se construirán sistemas de tratamiento para la descarga de las aguas a los drenajes naturales. La calidad que deberán tener estos afluentes, antes de su descarga, estará determinada por el Reglamento respectivo a la Ley de Prevención y Control de la Contaminación Ambiental.

Se implantarán las técnicas de reciclaje de los relaves, que se detallen en los estudios ambientales.

En todo caso, los titulares de derechos mineros estarán obligados a efectuar el monitoreo de eventuales infiltraciones y drenajes de aguas residuales y relaves.

Art. 61.- Amalgamación.- Cuando el proceso de recuperación mineral contemple el uso de mercurio, deberá realizarse acatando estrictamente las Normas para la Utilización de Mercurio en la Actividad Minera, establecidas mediante Acuerdo Ministerial No. 338, publicado en el Registro Oficial No. 286, de 29 de septiembre de 1989. En todo caso se utilizarán cilindros amalgamadores, retortas, reactivadores de mercurio y principalmente equipos de protección personal. Se evitará, por todos los medios, el contacto directo de los trabajadores con este elemento.

El mercurio antes y después de su uso, deberá ser cuidadosamente almacenado y guardado en recipientes herméticamente cerrados, para evitar su fuga.

Se prohíbe terminantemente el uso directo de mercurio en molinos de cualquier tipo y en canalones.

Los efluentes producidos en la etapa de amalgamación deberán ser recolectados y almacenados en reservorios impermeabilizados, los mismos que al cierre de las operaciones, serán rehabilitados de acuerdo a lo establecido en los estudios ambientales.

Art. 62.- Trituración y clasificación.- Durante estos procesos se colocarán filtros, ciclones, mangas u otros elementos que permitan la captación directa del polvo generado, con la finalidad de evitar la contaminación atmosférica.

Se reducirá la generación de ruidos y de gases tóxicos, mediante un adecuado mantenimiento de maquinarias y equipos, así como a través de la implantación de dispositivos específicos tales como silenciadores y filtros, y de otros mecanismos técnicos que garanticen su control.

Art. 63.- Flotación y/o lixiviación.- Cuando el tratamiento metalúrgico lo requiera, en los procesos de flotación y/o lixiviación se emplearán reactivos de pronta degradación y se tendrá especial cuidado en almacenarlos y transportarlos adecuadamente y en evitar derrames de las substancias durante el proceso.

De acuerdo con la técnica empleada en el proyecto, la superficie de los recipientes de flotación y lixiviación, se reducirá al mínimo. Estos recipientes serán drenados o cerrados adecuada y oportunamente cuando no estén en uso.

La lixiviación en pilas se la realizará en pisos totalmente impermeables y con un sistema seguro de recolección de fluidos alrededor de las pilas, para evitar el escape de sustancias tóxicas al ambiente.

Los materiales estériles y efluentes de estos procesos, serán convenientemente tratados para lograr la neutralización de las sustancias tóxicas, y posteriormente depositados en relaveras construidas para este fin, o dejados en el sitio con el tratamiento respectivo.

En todo caso, los titulares de derechos mineros están obligados a efectuar el monitoreo de eventuales infiltraciones y efluentes.

Art. 64.- Almacenamiento de concentrados.- Para fines de almacenamiento de concentrados, producto de los procesos metalúrgicos, se construirán locales apropiados, convenientemente cubiertos para impedir el efecto de la lluvia, el viento, y otros elementos naturales que puedan generar contaminación.

El personal que manipule este material deberá estar protegido con los implementos de seguridad más adecuados, como ropa de trabajo, casco, lentes, mascarilla, guantes y otros implementos recomendados para garantizar la seguridad e higiene industriales.

Art. 65.- Fundición y refinación.- Las actividades de fundición y refinación se realizarán en instalaciones técnicamente diseñadas y construidas para ese fin, de manera que ofrezcan seguridad e impidan afecciones a la salud humana y al ambiente.

Las plantas de fundición y refinación contarán con equipos extractores y procesadores de gases, que eviten su emisión al ambiente y que hagan factible su depuración antes de ser evacuados. La calidad de estas emisiones estará normada por el Reglamento respectivo a la Ley de Prevención y Control de la Contaminación Ambiental.

Art. 66.- Transporte.- En el transporte de minerales y de concentrados minerales se evitará que se produzca rebosamiento, escurrimiento, o cualquier otro tipo de pérdida de material, que contamine el ambiente. Para ello será indispensable que el medio de transporte esté cerrado o debidamente cubierto con lona en toda su extensión, o que el material haya sido tratado físico - químicamente para evitar su dispersión.

Cuando en el proyecto minero no se cuente con unidades de transporte propias y se deba contratar este servicio, en los contratos que se suscriban con los contratistas se especificarán las condiciones para que esta actividad no contamine el ambiente; en caso contrario, el titular minero será el responsable directo por los impactos que se causaren sin perjuicio de la responsabilidad civil o penal del transportista.

Art. 67.- Cierre de operaciones.- Cuando por agotamiento de las reservas de mineral, o por cualquiera de las causales de caducidad, renuncia o extinción de los derechos mineros, contempladas en la Ley de Minería, se produzca el cierre de operaciones del proyecto minero en cualquiera de sus fases, deberán realizarse adecuadamente las operaciones de desmantelamiento de campamentos, viviendas, maquinarias, equipos, obras de

infraestructura, servicios instalados, y otros, de acuerdo a lo establecido en el plan de manejo ambiental y en la correspondiente Auditoría Ambiental.

El área será reacondicionada de acuerdo a lo establecido en los estudios ambientales presentados, y previa consulta, planificación y aprobación de las autoridades pertinentes, se podrá adecuar para su uso en otros fines, especialmente culturales o recreativos.

El titular de derechos mineros será responsable en caso de que se presenten daños al entorno natural o procesos de contaminación después del cierre de operaciones de la concesión, originados directamente en las actividades de la misma.

Los ex - titulares de derechos mineros que hubieren producido daños al sistema ecológico o alteraciones al medio ambiente serán responsables de la rehabilitación y compensación por los efectos que sus actividades mineras hubieren causado.

CAPITULO IX NORMAS AMBIENTALES ADICIONALES APLICABLES A LA MINERIA ARTESANAL

Art. 68.- Declaración.- Sin perjuicio de las demás normas aplicables contenidas en este Reglamento, los mineros artesanales al momento de inscribirse y recabar la matrícula para la realización de sus actividades, dejarán constancia escrita en la Dirección Regional de Minería de su jurisdicción, del pleno conocimiento de la obligación que les impone la ley de utilizar en su actividad métodos que no contaminen el aire, el suelo y las aguas, ni afecten la flora y la fauna, ni la salud humana.

Art. 69.- Programas de capacitación y divulgación.- La Subsecretaría de Protección Ambiental conjuntamente con la Subsecretaría de Minas del Ministerio de Energía y Minas impulsarán un programa integral de capacitación y divulgación del uso de tecnologías tendientes a la protección del ambiente, y a la observancia de las normas ambientales vigentes en el país.

Art. 70.- Estudios ambientales conjuntos.- Podrán presentarse estudios ambientales conjuntos y regionales, por parte de mineros artesanales que hubieren obtenido la matrícula correspondiente, respecto de sectores que, por su ubicación, se encuentren dentro de una misma área de influencia.

Art. 71.- Uso de mercurio.- Los mineros artesanales sólo podrán utilizar mercurio u otros reactivos contaminantes cuando cuenten con amalgamadoras, retortas y depósitos para la sedimentación de partículas, o mantengan dispositivos que permitan la recuperación de mercurio y eviten la contaminación atmosférica, acuática o del suelo, en estricta conformidad

con las Normas para la Utilización de Mercurio en la Actividad Minera establecidas mediante Acuerdo Ministerial No. 338, publicado en el Registro Oficial No. 286, de 29 de septiembre de 1989.

Art. 72.- Nota: Artículo derogado por Numeral 135. de Decreto Ejecutivo No. 1665, publicado en Registro Oficial 341 de 25 de Mayo del 2004.

Art. 73.- Direcciones Regionales.- Las Direcciones Regionales de Minería en coordinación con la Subsecretaría de Protección Ambiental del Ministerio de Energía y Minas emitirán las disposiciones que requiera el ordenamiento de las actividades de minería artesanal.

En caso de producirse contravenciones a las disposiciones ambientales, se procederá en aplicación de las normas pertinentes de los artículos 145 y 146 de la Ley de Minería.

CAPITULO X RESPONSABILIDAD SOLIDARIA Y ACTIVIDADES ILICITAS

Art. 74.- Condóminos.- Los concesionarios que hubieren obtenido derechos al amparo de la Disposición Transitoria Tercera de la Ley de Minería serán solidariamente responsables por las obligaciones de protección ambiental establecidas en este Reglamento, sin perjuicio del cumplimiento de las normas del Art. 140 de la antes indicada Ley.

Art. 75.- Explotación ilícita e invasiones.- Las afectaciones al ambiente y el daño al sistema ecológico producidas a consecuencia de la explotación ilícita o invasiones serán consideradas como agravantes al momento de dictarse las resoluciones a las que se refiere el Art. 191 de la Ley de Minería.

CAPITULO XI ACCIDENTES, DENUNCIAS Y SANCIONES

Art. 76.- Accidentes.- En caso de accidentes o hechos fortuitos que ocasionen efectos ambientales negativos es responsabilidad del titular minero ponerlos inmediatamente en conocimiento de la administración ambiental minera y adoptar todas las medidas previstas en los estudios ambientales para rehabilitar y mitigar el sistema ecológico afectado.

Art. 77.- Denuncias ante la Subsecretaría de Protección Ambiental.- Los hechos que produzcan contaminación o degradación del medio ambiente, como consecuencia de las actividades mineras, pueden ser denunciados por cualquier persona natural o jurídica ante la Subsecretaría de Protección Ambiental del Ministerio de Energía y Minas, la que dispondrá de considerarlo necesario que la Dirección Nacional de Protección Ambiental de inmediato realice una inspección técnica al lugar en que se han producido los hechos denunciados, a fin de

evaluar el impacto ambiental causado, y en el término de diez días a partir de dicha diligencia emitir el informe correspondiente debidamente fundamentado.

Con dicho informe se correrá traslado al titular de derechos mineros denunciado, por el término de quince días, a fin de que presente las pruebas de descargo que considere necesarias. Vencido el término del traslado, con contestación o sin ella, la Subsecretaría en el término de cinco días, estudiará y analizará la denuncia, el informe técnico y las pruebas de descargo de haberlas, y de considerarla infundada así lo resolverá ordenando su archivo. En caso contrario de existir fundamento en la denuncia, remitirá copia de todo lo actuado al Defensor del Pueblo a fin de que se actúe de acuerdo con las disposiciones que se contienen en la letra g) del Art. 8 de la Ley Orgánica de la Defensoría del Pueblo, o a la autoridad correspondiente para que proceda a su enjuiciamiento y sanción, sin perjuicio de las acciones legales o recursos constitucionales a que hubiere lugar.

Art. 78.- Procedimiento de calificación de daño al sistema ecológico.- Las denuncias de daño al sistema ecológico, atribuibles al titular de derechos mineros, que recepten las Direcciones Regionales de Minería se remitirán a la Subsecretaría de Protección Ambiental del Ministerio de Energía y Minas, la cual inmediatamente dispondrá que la Dirección Nacional de Protección Ambiental emita un informe fundamentado sobre el contenido de la denuncia en base a una inspección técnica al lugar en el cual se hubiere producido el daño, en el término de diez días contados a partir de la fecha en que se hubiere cumplido la diligencia de inspección.

Con el informe respecto de los daños causados al ambiente, en el término de cinco días se correrá traslado al titular de derechos mineros, a fin de que, cumpla las observaciones y recomendaciones de dicho informe, dentro de un plazo técnicamente compatible con la magnitud del daño, que lo establecerá la Subsecretaría de Protección Ambiental del Ministerio de Energía y Minas. Más, si del informe se desprenden presunciones en su contra, el titular de derechos mineros tendrá derecho a desvirtuar fundamentadamente ante dicha dependencia, los cargos que se le imputen, mediante la presentación de una Auditoria Ambiental Especial, que se realizará de conformidad con los términos de referencia que al efecto establecerá la Dirección Nacional de Protección Ambiental, dentro del plazo que dicha Subsecretaría conceda a petición del interesado.

En caso de no desvirtuar las presunciones, la Subsecretaría de Protección Ambiental del Ministerio de Energía y Minas, dentro del término de cinco días, procederá a calificar el daño al sistema ecológico.

Art. 79.- Extinción de derechos mineros.- Constituye causal de extinción de derechos mineros, el daño al sistema ecológico calificado por la Subsecretaría de Protección Ambiental del Ministerio de Energía y Minas.

Las denuncias de daño al sistema ecológico o graves alteraciones al medio ambiente que se presenten ante las Direcciones Regionales de Minería con fundamento en lo dispuesto en la letra e) del Art. 101 y en el Art. 105 de la Ley de Minería, deberán tramitarse observando las normas pertinentes establecidas en el Capítulo VII de su Reglamento General.

Con la denuncia sobre daño al sistema ecológico, y la calificación de daño ecológico de la Subsecretaría de Protección Ambiental del Ministerio de Energía y Minas, el Director Regional de Minería correrá traslado al titular de los derechos mineros, a fin de que asuma su defensa en el término de veinte días de la fecha de su notificación. Dentro de este término, de oficio o a petición de parte, se practicarán las diligencias probatorias necesarias para el esclarecimiento de los hechos. Vencido dicho término, el Director Regional de Minería dictará la resolución que corresponda, la que será apelable ante el Director Nacional de Minería, de acuerdo con lo dispuesto en el artículo 213 de la Ley de Minería.

Art. 80.- Rechazo de la denuncia.- De no ser aceptada la denuncia, el Director Regional de Minería la rechazará mediante resolución y condenará al denunciante al pago de una multa de acuerdo con lo previsto en el Art. 216 de la Ley de Minería.

Art. 81.- Incumplimiento de obligaciones.- El incumplimiento de las disposiciones establecidas en este Reglamento o de las actividades propuestas en los estudios ambientales, constituirán fundamento para la calificación del daño al sistema ecológico por parte de la Subsecretaría de Protección Ambiental del Ministerio de Energía y Minas, dependencia esta que, en todo caso, procederá en aplicación del Art. 5 del presente Reglamento.

Art. 82.- Reparación de daños.- Sin perjuicio de lo previsto en el Art. 79 del presente Reglamento, el titular de derechos mineros que hubiese causado un daño al sistema ecológico calificado por la Subsecretaría de Protección Ambiental, deberá realizar a su costo todas las obras necesarias para reparar dicho daño.

Mining Act of Ecuador, 1991

Ley 126, Registro Oficial Suplemento 695 de 31 de Mayo de 1991.
CONGRESO NACIONAL EL PLENARIO DE LAS COMISIONES LEGISLATIVAS
En ejercicio de sus atribuciones constitucionales, expide la siguiente.
LEY DE MINERIA

TITULO VI DE LAS RELACIONES DE LOS TITULARES DE DERECHOS MINEROS ENTRE SI Y CON LOS PROPIETARIOS DEL SUELO

CAPITULO III DE LAS SERVIDUMBRES

Art. 97.- Clases de servidumbres. Desde el momento en que se constituye una concesión minera o se autoriza la instalación de plantas de beneficio, fundición y refinación, los predios están sujetos a las siguientes servidumbres:

a) La de ser ocupados en toda la extensión requerida por las instalaciones y construcciones propias de la actividad minera;

b) Las de tránsito, acueducto, líneas férreas, aeródromos, andariveles, rampas, cintas transportadoras y todo otro sistema de transporte y comunicación;

c) Las establecidas en la Ley Básica de Electrificación para el caso de instalaciones de servicio eléctrico; y,

d) Las demás necesarias para el desarrollo de las actividades mineras.

Art. 98.- Servidumbres sobre concesiones colindantes. Para dar o facilitar ventilación, desagüe o acceso a otras concesiones mineras o a plantas de beneficio, fundición o refinación, podrán constituirse servidumbres sobre otras concesiones colindantes o en áreas libres.

Los gastos que demande la constitución de estas servidumbres serán de cuenta exclusiva del concesionario beneficiado o del titular de la planta.

De encontrarse mineral al tiempo de constituir dichas servidumbres, este será de propiedad de la concesión sirviente, sin obligación de pago o compensación alguna.

Art. 99.- Indemnización por perjuicios. Las servidumbres se constituyen previa determinación del monto de la indemnización por todo perjuicio que se causare al dueño del inmueble o al de la concesión sirviente, y no podrá ejercitarse mientras no se consigne previamente el valor de la misma.

Art. 100.- Constitución y extinción de servidumbres. La constitución de la servidumbre sobre predios, áreas libres o concesiones, es esencialmente transitoria, su ejercicio y las indemnizaciones que correspondan se establecerán por mutuo acuerdo entre los interesados, que se elevará a escritura pública y se inscribirá en el Registro Minero a cargo del Registrador de la Propiedad. De no existir acuerdo entre las partes se seguirá el procedimiento señalado en el Capítulo III del Título XIV de esta Ley.

Estas servidumbres se extinguen con los derechos mineros y no pueden aprovecharse con fines distintos de aquéllos propios de la respectiva concesión o planta; pueden ampliarse o restringirse según lo requieran las actividades de la concesión o planta.

About the author:

In the last decade the author has worked overseas in Bolivia, China, Colombia, Ecuador, Egypt, Morocco, Perú, Tanzania, and Zimbabwe, and across Europe as Director of European Local Agenda 21 Programmes for the International Council for Local Environmental Initiatives (ICLEI), Germany, until 1999; and as Lecturer in Urban & Regional Planning at the International Institute for Geo-Information Management & Earth Sciences (ITC), The Netherlands, 1999-2003. While self-funding this doctorate, as Research & Policy Coordinator at the Royal Town Planning Institute, 2003-2004, as Research Associate at the Bartlett School of Planning, University College London, 2005-2006, and as Post-graduate Teaching Assistant, MSc Adaptive Architecture & Computation at the Bartlett School of Graduate Studies, University College London, 2006-2007.

During the past 4 years as a doctoral candidate the author has been awarded a number of full bursaries by the conference organizers to allow presentation of her work and participation, these include: the CAQDAS 07 Advances in Qualitative Computing Conference Bursary, University of London, 2007; CAQDAS Project Annual Seminar, University of Surrey, 2006; and the International Strategies for Qualitative Research Conference Bursary, University of Durham 2005 and 2006. Prior to this period the author has been awarded the following academic grants: AHRC MA fees award, University of Manchester, 2002-2003; European Environmental Polytechnic Association Award for MSc research at Swiss Federal Institute of Technology (ETH-Zürich), 1993; full ESRC MSc studentship, Oxford Brookes University, 1992-1993; United States Environmental Protection Agency Office for Environmental Criteria and Risk, Stipendium for International Researchers, 1992; Royal Town Planning Institute Prize for Best Final Year Performance, 1992; Harry Collinson Memorial Prize for BA (Hons.) dissertation research at Faculty of Spatial Planning, University of Dortmund, Germany, 1992; European Community Erasmus Award for a semester of study and dissertation research at the Faculty of Spatial Planning, University of Dortmund, Germany, 1991-1992.

Her academic qualifications to date comprise: MA in Latin American Cultural Studies, University of Manchester, 2003; MSc in Environmental Assessment and Management, Oxford Brookes University, 1993; First Class BA (Hons.) in Town and Country Planning, University of Newcastle upon Tyne, 1992, a degree which also gives exemption from the final professional examinations of the Royal Town Planning Institute of which she has been a chartered member since 1995.

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